

# **APPENDIX D**

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## **Initial Study**

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# ENVIRONMENTAL CHECKLIST

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## Initial Study

1. **Project Title:** Shasta River Watershed-Wide Permitting Program
2. **Lead Agency Name and Address:** California Department of Fish and Game  
601 Locust Street  
Redding, CA 96001
3. **Contact Person and Phone Number:** Bob Williams  
Staff Environmental Scientist  
Conservation Planning  
Department of Fish and Game  
530-225-2365
4. **Project Location:** Shasta River Watershed, Siskiyou County
5. **Project Sponsor's Name and Address:** Shasta Valley Resource Conservation District  
215 Executive Court, Suite A  
Yreka, CA 96097
6. **General Plan Designation(s):** Various. Most lands within the Program Area are mapped as Prime Agricultural Soils in the Siskiyou County General Plan (1980)
7. **Zoning Designation(s):** Various. Mostly AG-I

### 8. Project Description

#### 8.1 Project Overview

This section describes the California Department of Fish and Game's (CDFG) Shasta River Watershed-Wide Permitting Program (Program). CDFG developed the Program in consultation with the Shasta Valley Resource Conservation District (SVRCD) and agricultural operators<sup>1</sup> within the Shasta River watershed (Program Area). The Program is designed to implement key coho salmon (*Oncorhynchus kisutch*) recovery tasks while facilitating compliance by agricultural operators and those implementing coho salmon

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<sup>1</sup>"Agricultural operator" means: 1) any person who lawfully diverts water from a stream in the Program Area for an agricultural purpose; and/or 2) any person involved in a lawful agricultural operation on property in the Program Area through which or adjacent to which a stream flows.

restoration projects with the California Endangered Species Act (CESA) (Fish and G. Code, § 2050 *et seq.*) and Fish and Game Code section 1602 (section 1602). Compliance with those laws is necessary because both agricultural water diversions and recovery efforts could result in temporary or long-term adverse effects on coho salmon and other stream resources. Currently, agricultural operators in the Shasta River watershed can comply with CESA by applying to CDFG for an individual incidental take permit, and with section 1602 by submitting a notification and obtaining a streambed alteration agreement (SAA). To facilitate such compliance, CDFG and the Shasta Valley Resource Conservation District (SVRCD) developed the Program as an alternative to the standard process an agricultural operator would need to follow to obtain an incidental take permit and SAA.

On March 29, 2005, SVRCD submitted an application to CDFG for a watershed-wide incidental take permit (ITP) pursuant to Fish and Game Code section 2081(b) and (c). On April 1, 2005, SVRCD submitted a notification to CDFG for a Master Streambed Alteration Agreement (MSAA). Thereafter, CDFG prepared an ITP and MSAA in cooperation with SVRCD and worked with SVRCD and agricultural operators to develop a Program. The Program, if implemented, will enable agricultural operators and those implementing coho salmon restoration activities, including SVRCD, to obtain coverage for their activities through the issuance of sub-permits (for CESA) and SAAs (for section 1602). The sub-permits and SAAs will include those conditions in the ITP and MSAA that apply to the activities the ITP and MSAA cover, referred to in each as "Covered Activities."

The ITP, MSAA, and individual sub-permits and SAAs comprise the Program. The Program will authorize SVRCD and participating agricultural operators to conduct a range of Covered Activities specified in the ITP and MSAA within and adjacent to the Shasta River and its tributaries, provided they conduct the activities in accordance with the avoidance, minimization, and mitigation measures specified in the ITP and the conditions specified in the MSAA to protect fish and wildlife resources, including coho salmon. The term of the ITP will be ten years. The term of the MSAA will be five years, which CDFG may extend for a second five-year period prior to its expiration.

CDFG and the Siskiyou Resource Conservation District are developing a similar watershed-wide permitting program for the Scott River watershed, also in Siskiyou County. That program is the subject of a separate environmental review process under CEQA.

### ***Master Streambed Alteration Agreement***

CDFG and SVRCD have developed a Memorandum of Understanding which identifies their roles and responsibilities in administering and implementing the MSAA. The MSAA, which is currently in draft form, will identify the activities it will cover, referred to in the MSAA as "Covered Activities." The MSAA also will include measures necessary to protect fish and wildlife resources that any of the Covered Activities could substantially adversely affect. Each participating agricultural operator and SVRCD will be required to complete an application, referred to as a "notification," for the implementation of any Covered Activity. SVRCD will assist agricultural operators with the preparation of their notifications. After CDFG receives a notification, it will confirm the activity is covered by the MSAA, and thereafter prepare a SAA for the SVRCD or the participating agricultural operator which includes the particular set of protective measures in the MSAA that are assigned to that activity. The EIR will analyze the potential environmental effects of the Covered Activities in

the MSAA. Requests for SAAs which may have site specific impacts not analyzed in the EIR or which includes activities not identified within the MSAA may require additional environmental review.

### ***Incidental Take Permit***

Under CESA, a person may not “take”<sup>2</sup> a species listed as threatened or endangered unless the take is incidental to an otherwise lawful activity and the person obtains take authorization from the Department in the form of an incidental take permit. CDFG and SVRCD have worked together to develop an ITP as part of the Program, which is currently in draft form. The ITP will establish a program through which SVRCD and participating agricultural operators will be authorized to take coho salmon incidental to otherwise lawful activities identified as “Covered Activities” in the ITP. Specifically, CDFG would issue sub-permits to participating agricultural operators who intend to complete a Covered Activity, thereby making them sub-permittees. SVRCD will be covered by the ITP. As a condition of the ITP and each sub-permit, SVRCD and sub-permittees will be required to comply with the specific minimization and avoidance measures included in the ITP and sub-permits for their own projects, and SVRCD will be required to perform the mitigation measures identified in the ITP to fully mitigate take of coho salmon, and to monitor and report on the Covered Activities and avoidance, minimization, and mitigation measures.

### ***Program Advantages***

Participation in the Program has many advantages, including the following:

- The Program represents a comprehensive, watershed-wide effort to implement key coho salmon recovery actions.
- The Program will bring existing agricultural water diverters into compliance with CESA and section 1602.
- SVRCD will have one watershed-wide ITP for their many restoration projects, which will minimize the time and effort needed to obtain individual take authorization on a project-by-project basis. With the MSAA and ITP, it will take much less time for CDFG to develop individual SAAs for each SVRCD project subject to section 1602 and sub-permits for participating agricultural operators. .
- SVRCD will assist participating agricultural operators to prepare their SAA notifications and those operators will not be required to pay a notification fee to CDFG.
- SVRCD (through the ITP) and agricultural operators (through their sub-permits) will be authorized to take coho salmon incidental to the Covered Activities in the ITP.
- SVRCD and participating agricultural operators will not be responsible for CDFG's cost to prepare the EIR for the Program and, in most instances, CDFG will not need to prepare an additional environmental document under CEQA before issuing a sub-permit or SAA.

<sup>2</sup> “Take” means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. (Fish & G. Code, § 86.)

- CDFG will avoid the time needed to prepare multiple incidental take permits for multiple SVRCD activities.
- The Program provides a coordinated approach to implement restoration projects critical for recovering coho salmon..

### **Role of SVRCD**

SVRCD will play a central role in assisting agricultural operators to obtain sub-permits and SAAs. SVRCD also will be responsible for implementing the mitigation and monitoring requirements specified in the ITP and conducting an education program on coho salmon, CESA, and the terms of the ITP.

## **8.2 Program Need and Objectives**

### **8.2.1 Background and Need for the Program**

In early 2002, the Salmon and Steelhead Recovery Coalition petitioned the Fish and Game Commission (Commission) to list coho salmon north of San Francisco as an endangered species under the CESA. In response, CDFG issued a coho salmon status report to the Commission, recommending that coho salmon from San Francisco north to Punta Gorda be listed as endangered, and that coho salmon from Punta Gorda north to the Oregon border be listed as threatened pursuant to CESA (CDFG, 2004).<sup>3</sup> The Commission found that coho salmon warranted listing in accordance with CDFG's recommendations. These recommendations and subsequent decision were based on the best available information, which indicated that coho salmon have experienced a significant decline in the last half century.

In February 2004, the Commission adopted the Recovery Strategy for California Coho Salmon (Recovery Strategy). The Recovery Strategy emphasizes cooperation and collaboration, and recognizes the need for funding, public and private support for restoration actions, and maintaining a balance between regulatory and voluntary efforts to meet the goals of the Recovery Strategy. The Shasta and Scott River watersheds were identified for a pilot program to address coho salmon recovery issues and solutions related to agriculture and agricultural water use in Siskiyou County. In addition to identifying recommendations for the pilot program, the Shasta-Scott Recovery Team identified the need to develop a programmatic implementation framework (i.e., an ITP program) that works toward the recovery of coho salmon, while providing authorization to take coho incidental to otherwise lawful activities in the Shasta and Scott watersheds. The avoidance, minimization, and mitigation measures included in the ITP are consistent with the recovery tasks identified in the Shasta-Scott Pilot Program of the Recovery Strategy.

### **8.2.2 Program Objectives**

Objectives differ for the different parties involved in the Program: SVRCD, CDFG, and participating agricultural operators.

<sup>3</sup> Coho salmon north of Punta Gorda are within the Southern Oregon-Northern California Coasts (SONCC) Coho Evolutionarily Significant Unit (ESU).

### **Shasta Valley Resource Conservation District's Objectives**

SVRCD is a non-profit public agency, organized under Division 9 of the California Public Resources Code. The mission of SVRCD is to enhance the conservation and economic stability of natural resources by coordinating and supporting landowner activities, both public and private, and by providing information, education, and project implementation to residents within all watersheds in the district boundaries. SVRCD works closely with other public agencies, districts, private entities, and private individuals to accomplish its goals and objectives.

SVRCD's objectives for the Program are as follows:

- Support landowner activities (both private and public) in order to enhance the conservation and economic stability of Siskiyou County's natural resources;
- Assist agricultural operators in completing projects consistent with the tasks identified in the Recovery Strategy;
- Facilitate the development of the Program to streamline the process for the agricultural operators it serves to obtain incidental take permits and SAAs;
- Comply with CESA and section 1602 while performing instream and/or near stream coho salmon restoration measures;
- Assist agricultural operators in complying with CESA and section 1602;
- Provide incentives for agricultural operators in the Shasta River watershed to implement coho salmon recovery tasks;
- Increase the viability of coho salmon and other plant, fish, and wildlife resources in the Shasta River watershed by improving water quality and riparian habitat, minimizing any adverse effects from agricultural activities, and restoring habitat by providing a clear set of activities and conditions to agricultural operators;
- Protect and improve the biological functioning of the Shasta River watershed and natural resources while maintaining the economic viability of agriculture; and
- Implement the permit conditions identified in the watershed-wide ITP and MSAA for coho salmon in the Shasta River watershed.

### **California Department of Fish and Game's Objectives**

CDFG is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. CDFG seeks to issue an ITP, sub-permits and SAAs as part of a watershed-wide program to minimize impacts to coho salmon from agricultural activities in the Shasta River watershed and to enhance coho salmon habitat through the implementation of key coho salmon recovery tasks in the Shasta River watershed with SVRCD's assistance. CDFG's objectives in developing the Program are as follows:

- Fulfill the commitment to develop a permitting framework within the context of the Shasta-Scott Pilot Program in the Recovery Strategy;
- Work with SVRCD and agricultural operators to develop a watershed-wide permit program that covers agricultural water diversions and other agricultural activities in the Shasta River watershed;
- Protect and conserve coho salmon when authorizing activities in the Shasta River watershed that may result in the incidental take of coho salmon and/or are subject to section 1602;
- Implement key coho salmon recovery tasks essential to improving habitat conditions for coho salmon in the Shasta River watershed;
- Eliminate unauthorized take of coho salmon caused by water diversions in the Shasta River watershed and minimize and fully mitigate take of coho salmon incidental to legal water diversions, recovery actions, and other lawful activities;
- Establish mitigation measures that are proportionate to the level of impact from existing legal water diversions; and
- Bring existing agricultural water diverters into compliance with CESA and section 1602.

#### **Agricultural Operators' Objectives**

The objectives of agricultural operators' participating in the Program are as follows:

- Protect and conserve coho salmon and other plant, fish, and wildlife resources while maintaining the economic viability of agricultural operations in the Shasta River watershed; and
- Comply with CESA and section 1602 in conducting Covered Activities subject to those statutes.
- Participation in the Program assists small family owned farms and ranches in meeting the financial and regulatory requirements of CESA and Section 1602.

#### **8.3 Environmental Baseline**

Environmental review under CEQA analyzes the difference in environmental effects between baseline conditions and the likely conditions that would be realized if the Program were approved and implemented. The environmental analysis is restricted to those effects that spring from the incremental increase in activity or action that would result from Program implementation. CDFG has determined the physical environmental conditions in the Program Area as they existed at the time SVRCD submitted its application for an ITP and MSAA notification constitute the baseline physical conditions by which a determination will be made as to whether an impact is significant. For the purposes of the EIR, these conditions include legal agricultural operations, including legal water diversions, which were occurring in the Program Area at that time.



## 8.4 Program Characteristics

The proposed ITP and MSAA cover specific activities that typically occur within the Program Area, which the ITP and MSAA refer to as "Covered Activities". Those activities include agricultural operations, including water diversions, and actions to restore or improve coho salmon habitat. The first nine Covered Activities listed below are included in both the ITP and MSAA. The five remaining Covered Activities are included only in the ITP because they have the potential to impact coho salmon but are not activities subject to Section 1602.<sup>4</sup>

Both the ITP and MSAA include conditions of approval. For the ITP, the conditions include general conditions to avoid and minimize take of coho salmon which pertain to both the SVRCD and the sub-permittees. It also contains mitigation, monitoring, and reporting requirements that SVRCD must implement. Conditions in the MSAA include general conditions that apply to all Covered Activities, and specific conditions that apply to a specific Covered Activity. In writing a SAA for the SVRCD or an agricultural operator, DFG will include the general conditions and the conditions which apply to the specific Covered Activity being performed.

### 8.4.1 Covered Activities

Below is a summary of the activities that are covered in the ITP and MSAA.

#### ***ITP and MSAA Covered Activity 1: Water Diversion Pursuant to a Legal Water Right.***

This activity includes the active or passive diversion of surface water through a conduit from streams, channels, or sloughs in the Shasta River watershed by an agricultural operator for agricultural or domestic uses in accordance with a legal water right in the Shasta River Adjudication and Proceedings Judgment and Decree (1932).

***ITP and MSAA Covered Activity 2: Water Diversion Structures.*** This activity includes ongoing management/maintenance and the installation and removal of structures used to control or divert water, including:

- ***Ongoing management/maintenance of existing flashboard dams.*** This activity includes the placement of boards into concrete abutments across the wetted channel to build head to divert water.
- ***Gravel push-up dams.*** This activity includes use of loaders, backhoes, excavators, or hand work to move gravel/rock within the stream channel to form a flow barrier that seasonally blocks the flow of the stream/river.
- ***Other temporary structures.*** This activity includes the installation of those dams that are made of hay bales, hand-stacked rocks/cobble, and/or tarps, and those temporary dams that are otherwise not gravel push-up dams.

<sup>4</sup> Section 1602 requires an entity to notify the Department before substantially diverting or obstructing the natural flow of, or substantially changing or using any material from the bed, channel, or bank of, any river, stream, or lake, or depositing or disposing of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

- **Pumps and sump ponds.** This activity includes placement of pumps and maintenance of existing sumps within or adjacent to the active channel. Maintenance activities include the potential use of large machinery within the bed, bank or channel.
- **Headgates.** This activity includes the installation of head gates on the bank of the channel. Generally, the site is excavated to proper elevation with large machinery, the head gate, which must meet Department of Water Resources (DWR) standards, is positioned at the appropriate elevation, and rock armoring is often installed around the head gate to protect the structure.

**ITP and MSAA Covered Activity 3: Fish Screens.** Installation and maintenance of fish screens meeting CDFG/National Marine Fisheries Service (NMFS) criteria for coho salmon as they exist at the time the screen will be installed at stream diversions or pumping locations. These include:

- **Self-cleaning screens,** including flat plate self-cleaning screens, and other self-cleaning designs, including rotary drum screens and cone screens with a variety of cleaning mechanisms.
- **Non-self cleaning screens,** including tubular, box, and other designs consistent with CDFG/NMFS screening criteria.

Generally, the installation of a fish screen includes site excavation for the fish screen and a bypass pipe or channel at proper elevation using large machinery along the banks of the creek. If fish screen placement is within or near flood prone areas, rock armoring is installed to protect the structure. Activity within the bed or bank of the stream is usually limited to the installation of the bypass pipe. Disturbance from installing the bypass pipe or channel is limited to an estimated average of 40 square feet and no more than 100 square feet of stream bank.

**ITP and MSAA Covered Activity 4: Construction and Maintenance of Stream Access and Crossings.** This activity includes the movement of livestock and vehicles across flowing streams or intermittent channels and/or constructing stream crossings at designated locations where potential spawning gravels, incubating eggs or fry are not present based on repeated site specific surveys.

**ITP and MSAA Covered Activity 5: Installation of Fencing.** This activity includes the installation and maintenance of livestock exclusion fencing and associated stock watering lanes to protect the riparian zone of the rivers and streams in the Shasta River watershed.

**ITP and MSAA Covered Activity 6: Riparian Restoration and Revegetation.** This activity includes riparian restoration or revegetation, activities that are consistent with CDFG's *Salmonid Stream Habitat Restoration Manual, 3rd Edition*, or are otherwise specifically approved in writing by CDFG.

**ITP and MSAA Covered Activity 7: Instream Structures.** This activity includes the installation, maintenance, and repair of instream structures intended to provide habitat for coho salmon, and are consistent with the methods specified in CDFG's *Salmonid Stream Habitat Restoration Manual, 3rd Edition*.

Typical instream structures include the following:

- streambed and bank protection;
- installation of bioengineered habitat structures;
- installation of deflectors;
- installation of boulder clusters;
- installation of boulder weirs for instream habitat or to replace flashboard dams, gravel push up dams and other temporary diversion structures;
- placement of large woody debris; and.
- placement of gravel for spawning habitat enhancement.

***ITP and MSAA Covered Activity 8: Installation and Maintenance of Stream Gages.***

This activity includes the placement and maintenance of an approximately 2- to 6-inch diameter pipe into the active stream channel. The pipe is secured to the bank by attachment to the bedrock, a boulder, or a concrete buttress. The use of heavy equipment is generally not necessary for this activity.

***ITP and MSAA Covered Activity 9: Barrier Removal Projects/Fish Passage.*** The ITP and MSAA cover several specific projects to remove barriers to fish passage. The projects include the following:

- Aruajo Dam demobilization and water quality improvement project;
- Shasta Water Association's dam demobilization and water quality improvement project;
- Grenada Irrigation District fish barrier removal project; and
- Additional future enhancement projects consistent with the Program.

***ITP Covered Activity 10: Grazing Livestock.*** This activity includes grazing livestock adjacent to the channel or within the bed, bank, or channel of the Shasta River or its tributaries in accordance with a grazing management plan approved by CDFG. The grazing plan will address the timing, duration, and intensity of livestock grazing to minimize adverse impacts to the stream ecosystem.

***ITP Covered Activity 11: Water Management.*** This activity includes water management, water monitoring, and watermastering activities, including the operation of headgates in conjunction with measuring devices to assure that each diversion is operated in compliance with its associated water right. Flow measuring weirs are generally placed off stream within the diversion ditch.

**ITP Covered Activity 12: Permit Implementation.** This includes other activities associated with the implementation of avoidance, minimization, and mitigation measures required by the ITP.

**ITP Covered Activity 13: Monitoring.** This includes activities associated with the implementation of compliance, implementation, and effectiveness monitoring required by the watershed wide ITP (see below).

**ITP Covered Activity 14: Research.** This includes activities associated with conducting studies to improve our understanding of salmonid distribution, natural history, and population dynamics in the Shasta River watershed.

#### **8.4.2 Conditions of Approval**

The proposed ITP includes avoidance and minimization measures that will apply to SVRCD and participating agricultural operators (through their sub-permits) for their own Covered Activities. The ITP also includes measures to mitigate the incidental take of coho salmon for all Covered Activities that SVRCD, rather than individual agricultural operators, will be responsible for implementing. CDFG may include measures in a sub-permit that are not included in the ITP if it determines that the additional measures are necessary to avoid and minimize the take of coho salmon incidental to the activity covered in the sub-permit. The MSAA includes avoidance and minimization measures which the party receiving the SAA will be responsible for implementing when performing their specific Covered Activities.

#### **General Conditions of the ITP**

The draft ITP contains general conditions that will apply to both SVRCD and, through their sub-permits, participating agricultural operators, as summarized below.

**ITP General Condition A:** This condition requires SVRCD to conduct an education program for all sub-permittees within 60 days of the close of each sub-permittee enrollment period (After the ITP takes effect, a 90-day sub-permittee enrollment period will begin. Any agricultural operator who would like to enroll in the Program after the initial enrollment period closes may do so from January 1 to February 28 each year). The education program will consist of a presentation by a person or persons knowledgeable about the biology of coho salmon, the terms of the ITP, and CESA. The education program will include a discussion of the biology of coho salmon, their habitat needs, their threatened status under CESA, and the avoidance, minimization, and mitigation measures required by the ITP.

**ITP General Condition B:** This condition requires SVRCD and any sub-permittee to immediately stop, contain, and clean-up any fuel, lubricants, or other hazardous materials that leak or spill while engaged in a Covered Activity; to notify CDFG immediately of any leak or spill of hazardous materials into a stream or in a place where it can pass into a stream; and to store and handle hazardous materials at least 150 feet away from the edge of mean high water elevation of any stream, unless adequate containment for an existing facility is provided and approved by CDFG..

**ITP General Condition C:** This condition requires sub-permittees to provide non-enforcement CDFG representatives written consent to access the sub-permittee's property for the purpose of verifying compliance with, or the effectiveness of, required avoidance, minimization, and mitigation measures and/or for the purpose of fish population monitoring, provided CDFG notifies the sub-permittee at least 48 hours in advance.

**ITP General Condition D:** Under this condition, each sub-permittee will be solely responsible for any costs the sub-permittee incurs to implement any avoidance or minimization measures required under the ITP, unless CDFG specifies otherwise; and SVRCD shall be solely responsible for any costs it incurs to implement any mitigation and monitoring measures required under the ITP, unless CDFG specifies otherwise.

**ITP General Condition E:** This condition specifies that SVRCD's obligations under the ITP will end only after CDFG certifies that SVRCD has implemented the avoidance, minimization, and mitigation measures in the ITP for which it is responsible, and CDFG accepts SVRCD's Final Report (described below) as complete.

**ITP General Condition F:** This condition requires SVRCD to submit to CDFG an irrevocable letter of credit or another form of financial security other than a bond (Security) approved by CDFG's Office of the General Counsel in the principal sum of \$100,000. The Security must allow CDFG to draw on the principal sum if CDFG, in its sole discretion, determines that SVRCD or a sub-permittee has failed to comply with any of the avoidance, minimization, mitigation, or monitoring measures for which SVRCD or sub-permittee is responsible.

If CDFG draws on the Security, it must use the amount drawn to implement the measure(s) SVRCD or sub-permittee has failed to implement, or some other measure(s) within the Program Area that will more effectively avoid, minimize, or mitigate impacts on coho salmon caused by a Covered Activity.

**ITP General Condition G:** This condition allows instream work on structural restoration projects by SVRCD or a sub-permittee to occur only from July 1 to October 31 when coho salmon are least likely to be present and/or when water temperatures exceed the tolerance levels of coho salmon. If the work needs to be completed before July 1 or after October 31, SVRCD or the sub-permittee may request a variance from CDFG in writing. If CDFG grants the request, the work must be completed in accordance with the avoidance, minimization, mitigation, and monitoring measures CDFG might specify in granting the variance.

**ITP General Condition H:** Under this condition, instream equipment operations by SVRCD or a sub-permittee may occur when coho salmon are least likely to be present and/or when water temperatures exceed the tolerance levels of coho salmon, which is generally from July 1 to October 31. SVRCD must contact CDFG to verify when such operations may begin each year prior to their commencement. The condition also specifies that to the extent possible, all such work must be done from outside the channel. All refueling of machinery must be done no less than 150 feet away from the edge of the mean high water elevation of any stream.

**ITP General Condition I:** This condition requires SVRCD and each sub-permittee to comply with Fish and Game Code section 1600 *et seq.* before beginning any near-or instream work described in section 1602, subdivision (a).

### **Additional SVRCD and Sub-Permittee Avoidance and Minimization Obligations Under the ITP**

In addition to any other obligations, the ITP contains specific obligations that SVRCD and each sub-permittee must implement in order to avoid and minimize the incidental take of adult and juvenile coho salmon in the Shasta River and its tributaries when engaged in a Covered Activity. Those obligations are briefly summarized below.

***ITP Additional Avoidance and Minimization Obligation A: Water Management.*** This includes compliance with water rights, verification of the quantity of water diverted, and a requirement to install headgates and water measuring devices on water diversion structures.

***ITP Additional Avoidance and Minimization Obligation B: Fish Screens.*** This includes fitting diversions with fish screens that meet CDFG and NMFS screening criteria for steelhead fry, annual inspection of screens during the irrigation season, provision of a bypass channel or device to enable fish to return to the main stream channel, cleaning and maintenance requirements, and high flow provisions to either prevent fish from being carried past the fish screen or allow them to return to the main stream channel.

***ITP Additional Avoidance and Minimization Obligation C: Fish Passage Improvements.*** SVRCD and each sub-permittee with fish passage issues will implement specified requirements in an effort to eliminate 100% of the fish barriers on a scheduled basis over the term of the ITP. This obligation requires SVRCD to create a priority list of diversions that impede fish passage, and to submit this list to CDFG for review and approval within one year of the effective date of the ITP. SVRCD must also coordinate with CDFG to develop and conduct a fish passage workshop for those who own, operate, or use diversions that are likely to obstruct fish passage. The workshop will be held within one year of the effective date of the ITP.

In addition to the above, each sub-permittee will be required to provide permanent volitional fish passage for both adult and juvenile coho salmon, both upstream and downstream, at each diversion prior to the expiration of the ITP. Where such passage appears to be inadequate, the sub-permittee must submit plans to CDFG for review and approval. As a part of the review, CDFG will make a determination regarding whether or not engineered drawings are necessary for the project. If engineered drawings are deemed necessary, they will be submitted for review and approval prior to implementing the project. Annual reports that document progress to provide adequate fish passage at these diversions will be provided to SVRCD by the owner of the diversion.

***ITP Additional Avoidance and Minimization Obligation D: Livestock and Vehicle Crossings.*** The draft ITP contains several "Avoidance and Minimization Obligations" to reduce the potential for take of coho salmon from livestock and vehicles crossing streams. Those obligations include: a prohibition on livestock and vehicles crossing flowing streams between October 15 and May 15, except in designated, CDFG-approved crossing lanes; criteria for site selection and crossing design, construction, periodic inspection, and maintenance. Crossing sites will be selected to avoid impacts on potential spawning habitat and coho salmon redds.

***ITP Additional Avoidance and Minimization Obligation E: Riparian Fencing/Grazing of Livestock in Riparian Areas.*** The draft ITP includes several provisions for riparian fencing and restriction of livestock from riparian areas intended to improve the condition of the

riparian vegetation for the benefit of coho salmon. Those include a requirement that SVRCD develop a Riparian Fencing Plan for CDFG review and approval that prioritizes areas for riparian protection; a requirement for sub-permittees to install, maintain, and repair exclusion fencing in accordance with the Riparian Fencing Plan; a requirement for sub-permittees to allow the planting of riparian revegetation and installation of exclusion fencing along designated stream reaches located on their property, and restrictions on sub-permittees' grazing of livestock within a fenced riparian area.

***ITP Additional Avoidance and Minimization Obligation F: Gravel Push-Up Dams.*** The draft ITP requires SVRCD to consult with CDFG to prepare and adopt a set of Best Management Practices (BMPs) that govern the construction, operation, and removal of gravel push-up dams. The BMPs will specify the conditions under which such dams may be constructed, including work windows and the type of equipment that may be used for construction and removal; provisions to allow fish passage; and measures to minimize stream sedimentation and other water quality issues. Within two years of the effective date of the ITP, any sub-permittee who uses gravel push-up dams in the Shasta River or its tributaries will be required to request SVRCD and CDFG to assess the dam. If CDFG determines that a gravel push-up dam is the best method to divert water and complies with the Fish and Game Code, specific BMPs will be added to the sub-permit to minimize dam-related impacts. Within four years of the effective date of their sub-permit, sub-permittees will be required to replace their gravel push-up dams with vortex weirs or other structures, provided it is technically feasible to do so and CDFG approves the structure.

***ITP Additional Avoidance and Minimization Obligation G: Bioengineered Bank Stabilization.*** In areas where the slopes of stream banks on a sub-permittee's property have become unstable and stabilization measures are necessary to re-establish vegetation, the sub-permittee will be required to implement bioengineered bank stabilization techniques<sup>5</sup> to prevent additional erosion from occurring. The techniques to be implemented must be consistent with methods identified in the most recent version of the CDFG's California Salmonid Stream Habitat Restoration Manual, and must be approved by CDFG on a site-by-site basis.

***ITP Additional Avoidance and Minimization Obligation H: Irrigation Tailwater Reduction and/or Capture.*** Under the ITP, SVRCD will be required to assist sub-permittees in the design and implementation of tailwater reduction and capture systems. SVRCD will inventory and prioritize tailwater sources for remediation and submit the priority list of sites to CDFG for its review and approval within two years of the effective date of the ITP. Tailwater capture systems will be consistent with the standards contained in U.S. Department of Agriculture's Natural Resources Conservation Service guidelines, and constructed so as not to have negative impacts on the stream either during or after construction. Any sub-permittee whose property is on the priority list must have tailwater reduction and capture systems in place by the expiration of their sub-permit.

***ITP Additional Avoidance and Minimization Obligation I: Dwinnell Dam and the Montague Water Conservation District.*** Since 1928, Dwinnell Reservoir has stored water for the Montague Water Conservation District (MWCD) which releases the stored water to

<sup>5</sup> Bioengineered bank stabilization structures use a combination of living plants, such as willow or other riparian trees, shrubs, and inert materials such as gravel and rip-rap. Bioengineered structures tend to provide more aquatic and riparian habitat attributes than conventional bank stabilization structures.

district members for irrigation purposes. Dwinnell Reservoir contains populations of non-native fish. Therefore, release from the reservoir likely exacerbates existing problems of predation on coho salmon. To avoid this problem, MWCD will screen their summer discharge from Dwinnell Reservoir into the Shasta River. In addition, MWCD shall prepare a feasibility study to investigate the design and implementation of fish screens on both the Parks Creek and Little Shasta River diversions. The feasibility study shall evaluate the water budget for intake and delivery operations and proposed water management measures at Dwinnell Dam to improve coho salmon habitat downstream of the dam. The feasibility study shall also investigate the possibility of providing fish passage at Dwinnell Dam.

### **Mitigation Obligations of SVRCD Under the ITP: Flow Enhancement, Habitat Improvement, and Barrier Removal and Fish Passage**

The ITP contains mitigation measures that the SVRCD will be required to implement. Those mitigation measures are required to mitigate potential take of coho salmon incidental to the Covered Activities. The mitigation measures also require the involvement of sub-permittees, and in some instances other entities. The mitigation measures are summarized below.

#### **A. Flow Enhancement Mitigation Obligations**

To mitigate potential take of coho salmon from the diversion of water in streams where coho salmon occur, SVRCD will implement the programs listed below to provide for or support the instream needs of coho salmon at specific life-cycle stages.

***Flow Enhancement Mitigation 1: Development and Implementation of Scott River Water Trust.*** SVRCD will be required to develop a locally-based Shasta River Water Trust (Water Trust). The Water Trust will lease or purchase water from sub-permittees for instream beneficial use in accordance with guidelines prepared by SVRCD and approved by CDFG.

***Flow Enhancement Mitigation 2: Improve Baseline Instream Flows Via Water Efficiency Improvements.*** The ITP will require SVRCD to improve baseline instream flows within critical reaches of the Shasta River and its tributaries and at critical life stages of coho salmon by installing water efficiency improvement projects on sub-permittees' properties or by changing or adding points of diversion to keep flows instream to point of use. SVRCD will work with the CDFG to develop priority stream reaches based on life stage need, and will work with sub-permittees to upgrade their overall irrigation efficiency and delivery systems to enhance instream flows. Projects that may be implemented to improve instream flows include: 1) the upgrade of water delivery systems to reduce waste; 2) the upgrade of water application systems; and 3) moving or adding points of diversion downstream closer to the point of use. Generally, a water transfer or dedication for instream benefits pursuant to Water Code section 1707 will be an element of water efficiency projects.<sup>6</sup>

<sup>6</sup> Water Code section 1707 authorizes the State Water Resources Control Board to approve a petition to change an existing water right specifically for the purpose of preserving or enhancing wetlands, fish and wildlife, or recreation in or on the water. Such a change requires that the original use under the existing right cease or be reduced in the amount of the change.



**Flow Enhancement Mitigation 3: Develop and implement a Contingency Plan for Dry and Critically-Dry Water Years.** Under the ITP, SVRCD will be required to submit a detailed Contingency Plan for Dry and Critically-Dry Water Years to CDFG for review and approval within one year of the effective date of the ITP. The Contingency Plan will identify the criteria to determine when a year is dry or critically-dry and describe a process by which SVRCD will coordinate with sub-permittees to augment stream flows. SVRCD will determine whether the water year will be dry or critically-dry by April 15. SVRCD shall include the following measures in the Contingency Plan:

- **Contingency Plan Measure 1: Augmentation of Stream Flow.** In dry and critically-dry years, instead of directly diverting water from the stream for irrigation uses, pumping water from wells may be necessary to improve over-summering habitat and migration conditions for coho salmon in the fall. To meet that objective, all sub-permits shall require the sub-permittee to make available to the Program any excess irrigation and stock water well capacity in dry or critically-dry years in accordance with the Contingency Plan, provided the sub-permittee is reimbursed for any pump operation costs the sub-permittee incurs to meet this requirement using funds from the Water Trust, or from some other source.
- **Contingency Plan Measure 2: Develop and Implement a Diversion Ramp-Up Management Plan.** Significant changes in stream flow occur when agricultural water users begin diverting water at the same time. A rapid decrease in flow can result in the stranding of fish in shallow pools and side channels below diversions. To address this problem, SVRCD, in consultation with CDFG and DWR, shall develop and implement a Diversion Ramp-Up Management Plan to coordinate and monitor irrigation so as to minimize rapid reductions in instream flows and the possible stranding of coho salmon at the beginning of, and during the irrigation season. SVRCD shall submit the Management Plan to the CDFG for its review and approval within one year from the effective date of the Permit. SVRCD and the sub-permittees shall begin implementing the Management Plan immediately upon the CDFG's approval.

**Flow Enhancement Mitigation 4: Install Alternative Stock Water Systems.** Water is diverted for stock watering purposes in October, November, and December each year after diversions for irrigation cease. In those years when the seasonal rains arrive late, such stock water diversions can limit the ability of returning adult coho salmon to reach spawning areas. To address that problem, SVRCD shall identify priority areas where additional instream flows in the fall will contribute significantly to adult coho salmon migration. A priority plan shall be prepared by SVRCD that identifies where, if any, alternative stock watering systems may be beneficial for coho salmon. During the term of the ITP, SVRCD shall install an average of two alternative stock watering systems per year, if deemed necessary by the priority plan. The watering systems will use groundwater rather than surface water in order to increase stream flows. Higher stream flows will facilitate adult coho salmon access to spawning areas. For purposes of the ITP, an alternative stock water system means the wells, pumps, water lines, watering troughs, and other physical components used to provide groundwater to livestock.

## **B. Habitat Improvement Mitigation Obligations Under the ITP**

The ITP will obligate SVRCD to undertake habitat improvement projects to mitigate impacts to coho salmon habitat.

***Habitat Improvement Mitigation 1: Spawning Gravel Enhancement.*** Under the ITP, SVRCD will be required to work with CDFG to develop and implement a Spawning Gravel Enhancement Plan (Gravel Enhancement Plan). The Gravel Enhancement Plan will identify areas where gravel for coho salmon spawning needs to be placed and where gravel can be recruited, and prioritize immediately-needed gravel enhancement projects throughout the Program Area. SVRCD will submit the Gravel Enhancement Plan to CDFG for review and approval within two years from the effective date of the ITP.

SVRCD will identify in the Gravel Enhancement Plan priority areas for the placement of gravel and/or flows which will maintain gravel quality. The SVRCD will design and install constrictors and/or other spawning will design and install constrictors and/or other spawning area enhancement structures at a total of five priority stream reaches where spawning gravels are not plentiful, if deemed necessary in the Gravel Enhancement Plan. SVRCD will complete all gravel enhancement projects prior to the expiration of the ITP.

***Habitat Improvement Mitigation 2: Instream habitat improvement structures.*** SVRCD, in consultation with CDFG, will identify locations in the Program Area where instream habitat improvement structures would benefit coho salmon, and list those locations in order of priority. SVRCD will finalize the list within one year from the effective date the ITP. SVRCD will install at least twenty instream habitat improvement structures at sites identified on the priority list.

***Habitat Improvement Mitigation 3: Riparian Planting.*** The ITP will require SVRCD to submit to CDFG for its review and approval a priority list of areas currently being used by coho salmon for spawning and rearing. The list must be submitted within two years of the effective date of the ITP. Before the ITP expires, SVRCD will plant eight linear miles of streambank (measured on one side of the river) of riparian habitat in the areas included on the priority list to improve instream cover and shade canopy, improve channel stabilization, and trap or hold sediment. Three miles of streambank will be planted within five years of the effective date of the ITP.

## **C. Barrier Removal and Fish Passage Mitigation Obligations Under the ITP**

Significant barriers exist in the Shasta River system that prevent fish passage or limit historical access. Because removal of fish passage barriers can have short-term negative effects, possibly including take of coho salmon, these mitigation measures are also a Covered Activity (see ITP and MSAA Covered Activities 9 above).

Some older structures that impede fish passage are considered "legacy projects"<sup>7</sup>. Restoring passage at those sites are considered mitigation measures for purposes of the ITP. The ITP requires SVRCD to continue to work toward eliminating the fish passage barriers identified below.

**Barrier Removal And Fish Passage Mitigation Obligation 1 Araujo Dam Demobilization and Water Quality Improvement Project.** SVRCD will continue to work with CDFG on the permanent removal of Araujo Dam, a seasonally-used flashboard dam built in 1856 that five landowners use to irrigate agricultural lands.

**Barrier Removal and Fish Passage Mitigation Obligations 2: Shasta Water Association's Dam Demobilization and Water Quality Improvement Project.** SVRCD shall continue to work with CDFG on the removal of a flashboard dam built in 1912 that approximately 130 individual landowners use.

**Barrier Removal and Fish Passage Mitigation Obligations 3: Grenada Irrigation District Fish Barrier Removal Project.** SVRCD will develop final engineered drawings for removal of the fish passage barrier at the Grenada Irrigation District diversion and develop funding to implement the new diversion structure design by the expiration of the ITP.

### 8.5.3 Monitoring and Adaptive Management Program Under the ITP

The draft ITP requires SVRCD and sub-permittees to participate in a program to monitor compliance with the conditions of the ITP, the implementation of mitigation, minimization, and avoidance measures, and the effectiveness of those measures in protecting coho salmon.

Under the terms of the ITP, SVRCD will be responsible for monitoring the sub-permittees' compliance with the terms and conditions of their sub-permits by instituting a comprehensive compliance monitoring program. The monitoring program will include a means to: (1) confirm and monitor the implementation of the minimization and avoidance measures for which the sub-permittees are responsible; and (2) identify sub-permittees who are not in compliance with the terms and conditions of their sub-permits. SVRCD will be required to notify CDFG immediately of sub-permittees who are not in compliance with a term or condition of their sub-permit, or who are unlikely or unwilling to implement required avoidance and minimization measures within the time periods specified in the sub-permit. SVRCD will not be responsible for enforcement; that responsibility is reserved to CDFG.

<sup>7</sup> Legacy projects are defined as those projects that address historic management practices that have been usurped by new laws and regulations. An example of a legacy project is a water association dam that has been in place since the 1920's. No single person is accountable for the dam and the restoration value of improving passage exceeds the value of non-legacy projects.

SVRCD's monitoring program will also be used to determine the effectiveness of the avoidance, minimization, and mitigation measures required by the ITP, and the extent to which the objectives of those measures have been met. The results of the effectiveness monitoring would be used as a basis for an adaptive management program, to refine future avoidance, minimization, and mitigation measures.

#### **8.5.4 Reporting Requirements of SVRCD Under the ITP**

The draft ITP includes several reporting requirements that SVRCD would be subject to. This includes an Annual Report for each year that the ITP is in effect, a Five-Year Report, and a Final Report.

Each Annual Report will include the following information: 1) a general description of the status of the Program, including a description of all avoidance, minimization, and mitigation measures that were implemented during the previous year; 2) a copy of an implementation database with notes showing the current implementation status of each avoidance, minimization, and mitigation measure; 3) the results of all compliance, implementation, and effectiveness monitoring conducted pursuant to the ITP; and 4) all monitoring data.

Five years after the effective date of the ITP, SVRCD will be required to conduct a comprehensive review of the Program and submit its findings in the form of a Five-Year Report to CDFG. As part of its review, SVRCD will evaluate coho salmon recovery task implementation and community participation. The Five-Year Report will include an analysis of the Program beginning on the effective date of the ITP, as well as the activities that have been implemented since that time. The Five-Year Report would include recommended adaptive management actions to improve operations.

No later than six months after the expiration of the ITP, SVRCD will be required to submit a Final Report to CDFG. The Final Report will include: 1) a copy of the implementation database with notes showing when each avoidance, minimization, and mitigation measure was implemented; 2) all available information about the incidental take of coho salmon the ITP covers; 3) information about the impacts the Covered Activities have had on coho salmon, notwithstanding the implementation of the avoidance, minimization, and mitigation measures; 4) the beginning and ending dates of all construction activities the ITP or any sub-permit covers; 5) an assessment of the effectiveness of the ITP's and sub-permits' terms and conditions to avoid, minimize, and mitigate impacts on coho salmon; 6) recommendations on how those terms and conditions might be changed to more effectively avoid, minimize, and mitigate such impacts in the future; and 7) any other pertinent information.

#### **General Conditions of the MSAA**

The draft MSAA contains several general conditions that will apply to the SVRCD and agricultural operators who obtain SAAs. Most of the general conditions are compatible with those contained in the draft ITP. In addition, the MSAA states SVRCD and any agricultural operator who obtains a SAA must comply with all local, state, and federal laws to conduct a Covered Activity, including CESA, and, where applicable, possess a valid water right.

### Specific Project Activity Conditions of the MSAA

Under the MSAA, specific conditions of approval are termed "Specific Project Activity Conditions" and will be apply to the SVRCD's and agricultural operator's SAA when conducting a particular Covered Activity. In general, the conditions are similar to or compatible with the avoidance and minimization measures in the draft ITP

#### 8.5.5 Department of Water Resources (DWR) Sub-Permit Obligations

The draft ITP includes special provisions for DWR, under the assumption that DWR will be a sub-permittee. As such, DWR will be responsible for complying with the following terms and conditions:

1. To assist with the implementation of the ITP and sub-permits, DWR will provide to CDFG water use data for all diversions with watermaster service in the Program Area, including, but not limited to, the name of the diverter, the location of the diversion, the quantity of water that may lawfully be diverted and used, the dates the watermaster visits each diversion, and the estimated or measured quantity of water diverted by the watermaster on each visit. DWR will provide the data in the form of a database on a monthly basis from April to November each year by the second week of each month following data collection.
2. DWR will implement the Shasta River decree pursuant to provisions of the Water Code in the adjudicated portions of the Shasta River watershed. As part of that responsibility, the DWR watermaster, or a functional equivalent, will verify that each sub-permittee is in compliance with their respective water right(s). The watermaster will create a database of all diversions visited on a monthly basis to verify compliance with water rights and will provide those data monthly to CDFG.
3. Notwithstanding the above, DWR will implement the provisions of the Shasta River decree consistent with CESA.

### References

- California Department of Fish and Game, *Salmonid Stream Habitat Restoration Manual, 3rd Edition*, Flosi *et al.*, Sacramento, CA, revised and updated in 2003.
- California Department of Fish and Game, *Recovery Strategy for California Coho Salmon*. Report to the Fish and Game Commission, February 4, 2004.
- California State Water Resources Control Board, *Water Transfer Issues in California*. Final report of the Water Transfer Workgroup to the SWRCB. Sacramento, June, 2002.
- Scott River Watershed Council, *Initial Phase of the Scott River Watershed Council Action Plan: Update*. Etna, CA, October, 2005.
- Siskiyou County Resource Conservation District, *Incidental Take Permit Application for Coho Salmon*. Submitted to California Department of Fish and Game on March 29, 2005.

## **9. Surrounding Land Uses and Setting.**

The Shasta River is one of four main tributaries to the Klamath River, the others being the Trinity, Salmon, and Scott Rivers. The Program Area is the Shasta River watershed, including the Shasta River and its tributaries, in Siskiyou County. This includes the northwestern slope of Mount Shasta, the Shasta Valley, and the main tributaries to the Shasta River: Parks Creek, Willow Creek, Yreka Creek, and the Little Shasta River. The entire watershed, which covers about 792 square miles, is within Siskiyou County, Northern California. The Shasta River flows roughly northwest, from the northern flank of Mt. Shasta, through the Shasta Valley, then through a bedrock canyon to its confluence with the Klamath River.

There are several towns and cities in the watershed that are excluded from the program, including Weed, Yreka, Gazelle, Edgewood, Montague, and Grenada. Dwinnell Dam and Lake Shastina are major features located in the Shasta Valley. Interstate 5 runs through the Shasta Valley and is the main north-south transportation corridor. State Routes 3, 263, and 99, and U.S. 97 also run through the watershed.

Most of the lands where covered activities occur are in the lowland, agricultural areas of the Shasta Valley. Raising of field crops, including alfalfa and other hay crops, and stock-raising are the principal agricultural pursuits. Water rights in the Shasta River watershed are subject to the Shasta River Adjudication and Proceedings Judgment and Decree (1932). DWR provides watermastering services.

## **10. Other Public Agencies Whose Approval is Required**

The primary discretionary actions for the Program are CDFG's issuance of the ITP to the SVRCD and approval of the MOU which includes the MSAA. After the ITP is issued and the MOU signed, CDFG may issue the ITP to the SVRCD and individual sub-permits and SAAs to the SVRCD and participating agricultural operators. The sub-permits and individual SAAs include general and specific measures included in the ITP and MSAA based on the Covered Activity to be complete. It is these discretionary actions which trigger requirements for environmental review under CEQA. Additional discretionary actions by state and local agencies may include actions to allow activities within the waters of the state by the Regional Water Quality Control Board and the State Lands Commission. Water transfers pursuant to Water Code section 1707 would require approval by the State Water Resources Control Board. If any of the Covered Activities could disturb historic or cultural resources, approval by the State Historic Officer may be required.

## Environmental Factors Potentially Affected


The Program and the Covered Activities authorized under it could potentially affect the environmental factors checked below. A more detailed checklist and discussion of each environmental factor follows the checklist below. "Project" or "proposed project" in any of the checklists below means the Program, and hereafter, "Program" includes the Covered Activities authorized under it.

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Aesthetics                                 | <input checked="" type="checkbox"/> Agriculture Resources              | <input type="checkbox"/> Air Quality                               |
| <input checked="" type="checkbox"/> Biological Resources            | <input checked="" type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology, Soils and Seismicity             |
| <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Hydrology and Water Quality        | <input checked="" type="checkbox"/> Land Use and Land Use Planning |
| <input type="checkbox"/> Mineral Resources                          | <input type="checkbox"/> Noise   | <input type="checkbox"/> Population and Housing                    |
| <input type="checkbox"/> Public Services                            | <input type="checkbox"/> Recreation                                    | <input type="checkbox"/> Transportation and Traffic                |
| <input checked="" type="checkbox"/> Utilities and Service Systems   | <input checked="" type="checkbox"/> Mandatory Findings of Significance |  |

## DETERMINATION

On the basis of this initial study:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect; 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.



Signature

Mark C. Stopher  
Printed Name

October 19, 2006

Date

Donald B. Koch, Regional Manager  
For



Section 15128 of the CEQA Guidelines (Cal. Code Regs., tit. 14, §15000 *et seq.*) requires that an environmental impact report (EIR) contain a statement briefly indicating why various possible effects were found "not to be significant and were therefore not discussed in detail in the EIR." The CEQA Guidelines also generally encourage agencies to prepare EIRs that focus on issues and effects that are potentially significant and to minimize other discussions that are clearly less important.

In preparing this initial study, CDFG considered the potential for significant impacts to a variety of environmental factors. It was determined that many of those factors would not be affected or, if impacts could potentially occur, would be affected at a less than significant level. Many of the environmental factors falling in the "less than significant" category are further analyzed in this initial study to enable the reader to better understand CDFG's determination regarding impacts. Unless comments received during the comment period indicate additional analysis is necessary, those environmental factors will not be discussed in additional detail in the EIR. For purposes of the analysis below, "Covered Activities" includes the activities authorized under the ITP and MSAA, as well as the general and specific avoidance, minimization, and mitigation measures included in the ITP and MSAA.

## Environmental Checklist

### Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>1, AESTHETICS—Would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

a) The Program covers specified, lawful activities that are typical within a working agricultural landscape, such as the installation of instream structures to divert water. It also requires actions to restore and improve coho salmon habitat, such as the installation of fish-screens and exclusionary riparian fencing. Most of such structures are or will be located either in or near the stream channel. They would not impede scenic vistas, and typically would be visible at medium- (>20 feet) to close-range (10-20 feet). In most cases, after the construction has been completed, a project site might contain a diversion structure,

exclusionary fencing, or riparian vegetation that is relatively indistinguishable from other baseline agricultural operations occurring throughout the landscape. Therefore, the Program would have a less-than-significant impact on a scenic vista.

b) The Shasta River watershed, and Siskiyou County in general, do not contain officially designated state scenic highways. However there are state scenic highways throughout the county that are eligible for state designation. These eligible state scenic highways are also identified in the Siskiyou General Plan (1980) Scenic Roads Element. Eligible highways that traverse the Shasta River watershed include: US Route-97 from the Oregon border south to I-5 in Weed, Interstate 5 from the Oregon line to its intersection with State Route-3 in Yreka, SR-3 from Montague to the Trinity County line, and SR-263 from Yreka to Hwy 96 at the confluence of the Shasta and Klamath Rivers. Most Covered Activities will take place either in or near the stream channel and will not damage resources within a scenic corridor. In some cases, Covered Activities, such as riparian revegetation, will be a long-term improvement to the visual landscape. While there is potential for vegetation removal during construction activities, including clearing and grubbing to remove fish passage barriers or to install fish screens, conditions of approval in the ITP and MSAA would minimize and mitigate for vegetation disturbance. There are also potential aesthetic improvements resulting from ITP Covered Activity 6: Riparian Restoration and Revegetation. Riparian planting is commonly conducted within or adjacent to the active channel and often near the wetted channel. For these reasons, the Program would have a less-significant-impact on scenic resources such as trees, rock outcroppings, and historic buildings within a state scenic highway corridor.

c) Covered Activities would have an appearance similar to other baseline activities (e.g., water diversion structures, installation of fish screens, fencing installation) or would have no visual impact (e.g., monitoring, research, permit implementation). Covered Activities that involve heavy equipment, such as loaders, backhoes, and excavators, would introduce changes to the visual landscape; however, those effects would be temporary during construction of Covered Activities, and would not significantly affect the visual character of the area. Once construction has been completed, there would be structures (e.g., livestock fencing, instream diversion structure) that would be virtually indistinguishable from the rest of the working agricultural landscape. In some cases, Covered Activities such as replacement of gravel push-up dams with boulder weirs or other, more natural-appearing structures, as well as riparian revegetation, would result in long-term aesthetic improvements to areas in and along waterways. Therefore, the Program would have a less-than-significant impact on the existing visual character.

d) Most Covered Activities involve natural materials (e.g., boulders, hay bales, rocks/cobble, large woody debris, gravel, bio-engineered habitat structures, riparian plantings, and quarry rock) that would blend in with the natural environment. Fish screens and livestock exclusion fencing are matte in color and do not contribute substantial glare that would adversely affect

daytime or nighttime views in the area. There are no Covered Activities that require either nighttime construction lighting or illumination once a structure has been installed. Therefore, the Program would have a less-than-significant impact of creating new light or glare.

## References

Caltrans, *California Scenic Highway Mapping System, Siskiyou County*, accessed on September 25, 2006: [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/index.htm](http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm)

Siskiyou County, *Siskiyou County General Plan, Scenic Highways Element*, 1980.

## Agricultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>2. AGRICULTURAL RESOURCES– Would the project:</b>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland of Statewide Importance to non-agricultural use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

a,b,c) The Program provides participants take authorization under CESA and coverage under section 1602 for specific Covered Activities. Those activities include, but are not limited, to water diversions and actions to restore coho salmon habitat (see ITP and MSAAC Covered Activities above). The ITP requires specific avoidance, minimization, and mitigation measures to protect coho salmon and to implement key coho salmon recovery tasks (see Conditions of Approval above). Implementation of the Program has the potential to affect agricultural resources and will be evaluated in the EIR.

## Reference

Siskiyou County, *Siskiyou County General Plan, Land Use and Circulation Element*, 1980.

## Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>3. AIR QUALITY</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. <b>Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects air quality.

## Regional Topography, Meteorology, and Climate

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the air pollutants. The atmospheric pollution potential, as the term is used in this Initial Study, is independent of the location of emission sources and is instead a function of factors such as topography and meteorology.

The Program Area is the Shasta Valley watershed, located in north-central Siskiyou County, California, at the base of the Cascade Range in the Northeast Plateau Air Basin. In this area of California, the Klamath Mountains merge with the Cascade Range to create an extensive area of rugged mountain terrain more than 200 miles in width. The Cascades range from approximately 5,000 to 10,000 feet in height, with Mt. Shasta rising to 14,161 feet above sea

level (WRCC, 2006a). Shasta Valley generally rises to the south towards Mount Shasta, with the elevation of Weed at approximately 3,600 feet above mean sea level and the elevation of Yreka at approximately 2,600 feet above mean sea level (WRCC, 2006a). This unique variation of elevation and rugged terrain contributes to the fluctuating climate in the Program Area.

Warm winters, cool summers, small daily and seasonal temperature ranges, and high relative humidity are characteristic of the area nearest the Pacific Ocean. With increasing distance inland, the maritime influence decreases. Areas that are well protected from the ocean, such as Shasta Valley, experience a more continental climate type with warmer summers, colder winters, greater daily and seasonal temperature ranges, and generally lower relative humidity.

The northwestern part of the Program Area near Yreka typically has average maximum and minimum winter (i.e., January) temperatures of 44 ° F and 24 ° F, respectively, while average summer (i.e., July) maximum and minimum temperatures are 91 ° F and 52 ° F, respectively. The southern part of the Program Area near Weed typically has average maximum and minimum winter (i.e., January) temperatures of 43 ° F and 23 ° F, respectively. Average summer (i.e., July) maximum and minimum temperatures in the southern part of the Program Area are approximately five degrees colder than the northern part of the Program Area at 85 ° F and 48 ° F, respectively. Precipitation in Yreka averages approximately 20 inches per year, with 18 inches of snowfall, and precipitation in Weed averages approximately 26 inches per year, with 19 inches of snowfall (WRCC, 2006b).

## Existing Air Quality

The Siskiyou County Air Pollution Control District (SCAPCD) operates a regional monitoring network that measures the ambient concentrations of criteria pollutants. Existing levels of air quality in the Program Area can generally be inferred from ambient air quality measurements conducted by SCAPCD at its Yreka – Foothill Drive monitoring station. The Yreka monitoring station measures ozone, particulate matter equal to or less than 10 microns (PM<sub>10</sub>), and particulate matter less than 2.5 microns (PM<sub>2.5</sub>) concentrations.

Background ambient concentrations of pollutants are determined by pollutant emissions in a given area as well as wind patterns and meteorological conditions for that area. As a result, background concentrations can vary among different locations within an area. However, areas located close together and exposed to similar wind conditions can be expected to have similar background pollutant concentrations. Table 3-1 shows a five-year (2001 – 2005) summary of monitoring data collected from the Yreka station, compared with California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). As indicated in the table, no exceedences of the ozone or PM<sub>2.5</sub> standards were recorded in Yreka during the five year study period. There were an estimated six days during 2002 when the PM<sub>10</sub> 24-hour standard was exceeded. It should be noted that the 8-hour ozone State Standard of 0.07 parts per million (ppm) became effective

May 17, 2006, and the number of exceedences of the new standard prior to 2006 are not available. However as of late September, 2006, the new 8-hour standard had been exceeded twice in 2006 at the Yreka monitoring station (SCAPCD, 2006).

**TABLE 3-1  
AIR QUALITY DATA SUMMARY (2001–2005) FOR THE PROGRAM AREA**

Pollutant	Standard	Monitoring Data by Year				
		2001	2002	2003	2004	2005
Ozone						
Highest 1 Hour Average (ppm)		0.049	0.087	0.089	0.077	0.070
Days over State Standard	0.09	0	0	0	0	0
Days over National Standard	0.12	0	0	0	0	0
Highest 8 Hour Average (ppm)		0.038	0.075	0.074	0.071	0.064
Days over National Standard	0.08	0	0	---	0	0
Days over State Standard	0.07*	0	NA	NA	NA	0
Particulate Matter (PM <sub>2.5</sub> )						
Highest 24 Hour Average (µg/m <sup>3</sup> )		NA	NA	NA	NA	26.0
Days over National Standard	65	---	---	---	---	0
Particulate Matter (PM <sub>10</sub> ):						
Highest 24 Hour Average (µg/m <sup>3</sup> )		33.0	69.0	31.0	26.0	27.0
Estimated Days over State Standard	50	0	6	0	0	0
Annual Average (µg/m <sup>3</sup> )	30	NA	17.5	12.8	12.8	13.3

NOTES: \*This new ozone 8-hour State Standard became effective May 17, 2006. Values in **bold** are in excess of applicable standard. NA = Data not available. ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

SOURCE: CARB 2006a

## Sensitive Receptors

For the purposes of air quality and public health and safety, sensitive receptors are generally defined as land uses with population concentrations that would be particularly susceptible to disturbance from dust and air pollutant concentrations, or other disruptions associated with project construction and/or operation. Sensitive receptor land uses generally include schools, day care centers, libraries, hospitals, residential area, and parks. Some sensitive receptors are considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also

considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

## Regulatory Context

Air quality within the air basin is addressed through the efforts of various federal, State, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The air pollutants of concern, agencies primarily responsible for improving the air quality within the air basin, and the pertinent regulations are discussed below.

## Criteria Air Pollutants

Regulation of air pollution is achieved through both national and State ambient air quality standards and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act, the USEPA has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub>, PM<sub>2.5</sub>, and lead (Pb). These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, the USEPA has set "primary" and "secondary" maximum ambient thresholds for all seven criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

The NAAQS are defined as the maximum acceptable concentrations that may be reached, but not exceeded more than once per year. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants. Table 3-2 presents both sets of ambient air quality standards (i.e., national and State) and provides a brief discussion of the related health effects and principal sources for each pollutant. California has also established State ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants are not expected under the Program and thus, there is no further mention of these pollutants in this Initial Study. The Northeast Plateau Air Basin generally has good air quality and is in attainment or unclassified for all federal and State ambient air quality standards, except for the State's new 8-hour ozone standard, which became effective in May, 2006. Based on 2003 through 2005 data, the California Air Resources Board (CARB) designated Siskiyou County as non-attainment of the 8-hour ozone standard in August, 2006 (CARB, 2006b).

**TABLE 3-2**  
**STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES**

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.07 ppm	– 0.08 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases and NO <sub>x</sub> react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, CO interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide	1 Hour Annual	0.25 ppm –	– 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	1 Hour 3 Hour 24 Hour Annual	0.25 ppm – 0.04 ppm –	– 0.5 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hour Annual	50 µg/m <sup>3</sup> 20 µg/m <sup>3</sup>	150 µg/m <sup>3</sup> 50 µg/m <sup>3</sup>	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour Annual	– 12 µg/m <sup>3</sup>	65 µg/m <sup>3</sup> 15 µg/m <sup>3</sup>	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO <sub>x</sub> , SO <sub>2</sub> , and organics.
Lead	Monthly Quarterly	1.5 µg/m <sup>3</sup> –	– 1.5 µg/m <sup>3</sup>	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

ppm = parts per million  
 µg/m<sup>3</sup> = micrograms per cubic meter

SOURCE: CARB 2006c and SCAQMD, 1993



## **Regulatory Agencies**

### ***Federal***

USEPA is responsible for implementing the myriad programs established under the federal Clean Air Act, such as establishing and reviewing the NAAQS and judging the adequacy of State Implementation Plans (SIPs), but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

### ***State***

CARB is responsible for establishing and reviewing the state standards, compiling the California SIP, securing approval of that plan from USEPA, and identifying toxic air contaminants. CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air quality management districts, which are organized at the County or regional level. County or regional air quality management districts are primarily responsible for regulating stationary sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans that are required under the federal Clean Air Act and California Clean Air Act.

The regional air quality plans prepared by air districts throughout the State are compiled by CARB to form the SIP. The local air districts also have the responsibility and authority to adopt transportation control and emission reduction programs for indirect and area-wide emission sources.

### ***Siskiyou County***

The Program Area is within the jurisdiction of the Siskiyou County Air Pollution Control District (SCAPCD), which regulates air pollutant emissions for all sources other than motor vehicles throughout Siskiyou County. The SCAPCD enforces regulations and administers permits governing stationary sources.

As required by the federal Clean Air Act and the California Clean Air Act, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the standards have been achieved. Jurisdictions of nonattainment areas are also required to prepare air quality plans that include strategies for achieving attainment. Siskiyou County is in attainment or unclassified status for all of the NAAQS and the CAAQS, except for the State eight-hour ozone standard (SCAPCD, 2006). However, based on current data for the year, CARB may re-designate Siskiyou County as attainment of the State eight-hour standard by the

end of 2006. If the County achieves attainment of the eight-hour standard, then an air quality attainment plan would not be required to be prepared. Currently, there are no air quality plans applicable to the County (CARB, 2006b).

The Siskiyou County General Plan does not address any requirements regarding the protection and enhancement of air quality in the region and does not have any air quality protection policies that are applicable to the Program.

### **Air Quality Impacts and Mitigation Measures**

- a) There is no air quality plan that is applicable to the Program Area. Therefore, the Program would not conflict with or obstruct an applicable air quality plan. No impact would occur.
- b) Construction associated with some of the Program activities (e.g., installation of water diversion structures, fish screens, removal of stream barrier, etc.) would generate emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. However, implementation of the Program would result in only minor changes to existing, ongoing, legal water diversions and other in-stream and near-stream activities. Therefore, there would be little change in overall emissions associated with the Program. Nonetheless, this analysis includes Program emission estimates even though the emissions are technically part of the Program baseline and do not represent emission increases.

The SCAPCD does not have established significance criteria to determine the significance of CEQA projects such as the Program. However, the SCAPCD does have criteria pollutant significance thresholds for new or modified stationary source projects in the County. In lieu of significance thresholds for construction emissions, the SCAPCD has recommended comparing estimated Program emissions to its new or modified stationary source significance thresholds, which are 40 tons/year for ROG, NO<sub>2</sub>, and SO<sub>2</sub>, 100 tons/year for CO, and 15 tons/year for PM<sub>10</sub> (SCAPCD, 2006).

Onsite emissions would include equipment exhaust from construction equipment used to construct some of the covered Program activities. Onsite fugitive dust emissions are related to ground disturbance (conservatively assumed to be one acre/day) that would occur at the various Program activity sites. Offsite emissions are those that would be generated by worker vehicles that would be used to commute to the various sites associated with the Program and those that would be emitted by trucks and other equipment hauling materials and debris to and from construction sites.

Projected construction emissions are presented in Table 3-3, broken down by onsite and offsite emissions. Refer to Appendix AQ for the detailed assumptions that were used to estimate the worst case Program emissions. Because SCAPCD does not maintain construction equipment emission factors, South Coast Air Quality Management District (SCAQMD) emission factors for off road construction equipment were used to estimate onsite emissions sources. For the purposes of this analysis, it was assumed that three pieces of heavy construction equipment (one dozer, loader, and backhoe) would operate simultaneously within the Program Area eight hours per day, five days per week, from July 1 through October 31. This assumption represents daily concurrent construction associated with three Program activities that require heavy equipment.

CARB's EMFAC2002 model was used to develop emission factors for on-road vehicles, including pickup and diesel semi-trucks. Using the three concurrent Program activities scenario, it is assumed that 30 workers (10 per site) would each commute to the various Program activity sites and nine semi-tractor truck trips (three per site) would be required.

Fugitive dust emissions were developed based on guidance from the Bay Area Air Quality Management District (BAAQMD). Based on approximate emission factors developed by the USEPA for construction emissions, uncontrolled project construction-related PM<sub>10</sub> emissions are 0.77 tons per acre per month and 51 pounds per acre per day (BAAQMD, 1999).

**TABLE 3-3**  
**ESTIMATED PROGRAM CONSTRUCTION EMISSIONS (tons/year)**

Activity and Equipment	ROG	CO	NO <sub>2</sub>	SO <sub>2</sub>	PM <sub>10</sub>
<b>Onsite</b>					
Equipment Exhaust	0.63	1.59	0.09	0.26	0.15
Fugitive Dust	—	—	3.08	—	—
<b>Offsite</b>					
Worker Vehicle and Haul Truck Trips	2.55	1.37	0.01	0.01	0.11
<b>TOTAL</b>	<b>3.18</b>	<b>2.96</b>	<b>3.18</b>	<b>0.27</b>	<b>0.26</b>
Significance Thresholds (tons/year)	40	100	40	40	15
Significant Impact?	No	No	No	No	No

As shown in Table 3-3, estimated emissions that would be associated with the Program would be well below the significance thresholds recommended by the SCAPCD. Therefore construction emissions associated with the Program would be less than significant, and would not violate any air quality standard or contribute substantially to a projected or existing violation.

- c) Siskiyou County is currently non-attainment of the State 8-hour ozone standard. However, as described under a), above, implementation of the Program would result in only minor changes to existing, ongoing, legal water diversions and other in-stream and near-stream activities and there would be little to no change in overall ozone precursor emissions associated with the Program. Therefore, there would be no cumulatively considerable net increase of a criteria pollutant that is non-attainment in the Program Area and no impact related to a criteria pollutant that is non-attainment in the area would occur.
- d) It is anticipated that construction activities associated with the proposed Program would occur almost exclusively on private agricultural property in the rural areas of north-central Siskiyou County. Sensitive receptors in the vicinity of Program activity sites would likely include scattered ranch and farm houses associated with the agricultural uses of the area.
- Construction activities would generate emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. These emissions could expose sensitive receptors to pollutant concentrations. However, impacts to regional air quality would be less than significant (see discussion under b, above) and because emissions would be dispersed throughout the rural agricultural areas of the Program Area, impacts to sensitive receptors would also be less than significant.
- e) Construction of some of the Program activities would include potential short-term odor sources, such as diesel equipment operation, which could result in the creation of objectionable odors. Since the Program activities would be temporary, spatially dispersed, and generally take place in rural areas, these activities would not affect a substantial number of people. The Program activities would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

## References – Air Quality

- BAAQMD (Bay Area Air Quality Management District), 1999. *BAAQMD CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, December 1999.
- California Air Resources Board (CARB). 2006a. *Aerometric Data Analysis and Management* website (<http://www.arb.ca.gov/adam/welcome.html>) accessed June 5, 2006.
- \_\_\_\_\_. 2006b. Personal communication with Karen Magliano of CARB on October 4, 2006.
- \_\_\_\_\_. 2006c. *Ambient Air Quality Standards*. Obtained online (<http://www.arb.ca.gov/aqs/aaqs2.pdf>) June 5, 2006.
- Siskiyou County Air Pollution Control District (SCAPCD). 2006. Personal communication with Elden Beck of SCAPCD on September 29, 2006.

South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*.

Western Regional Climate Center (WRCC). 2006a. *Climate of California Narrative*. Obtained online (<http://www.wrcc.dri.edu/narratives/CALIFORNIA>) on June 5, 2006.

\_\_\_\_\_. 2006b. *Period of Record Monthly Climate Summaries for Yreka and Weed, California*. Obtained online (<http://www.wrcc.dri.edu/summary/Climsmnca.html>) on June 5, 2006.

## Biological Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>4. BIOLOGICAL RESOURCES—</b>				
<b>Would the project:</b>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

### *Affected Environment*

The Program is within the Klamath Bioregion,<sup>8</sup> which extends from the Pacific Coast eastward more than halfway across California to the Modoc Plateau and the Sacramento Valley floor. Forest types change from old-growth redwoods, white fir, and Douglas fir along the coast to drier types in the mountain ranges of Siskiyou County, mixed conifer–pine and mixed conifer–fir, then to Ponderosa pine and a variety of shrub communities (e.g., bitterbrush–rabbitbrush and juniper–sagebrush). The region is drained by rivers including the Eel, Trinity, Klamath, and Russian. The Klamath is a major river of the Pacific coast (250 miles long), and two of its tributaries, the Shasta and the Scott, drain arid interior valleys characterized by extensively utilized annual grasslands.

These watersheds are used by listed anadromous fish and a variety of threatened or endangered wildlife and sensitive plants, including California red-legged frog, western yellow-billed cuckoo, Swainson's hawk, and sandhill crane.

- a, d) Many "special-status"<sup>9</sup> wildlife and plant species known to occur in the Program Area are associated with riparian habitats or those in closely adjacent uplands: e.g., Pickering's ivesia, bank swallow, and northwestern pond turtle. Many of the Covered Activities involve operating machinery in riparian zones, manipulating habitat, and fencing streambanks. Impacts on these plants and animals are potentially significant.

Coho salmon are among the protected and special status animal species known to occur within the Program Area. Although one of the primary goals of the Program is to protect and restore coho salmon in the Shasta River watershed, the Program has the potential for adversely affecting coho salmon, their habitat, and their movement.

The EIR will evaluate the potential impacts of the Covered Activities in the ITP and MSAA on these species and their habitat, including, most importantly, potential impacts on coho salmon migration, spawning, and rearing.

<sup>8</sup> California bioregions were developed by the Inter-agency Natural Areas Coordinating Committee (California Department of Forestry and Fire Protection, 1992. California Bioregions <http://www.frap.cdf.ca.gov/data/frapgisdata/select.asp>).

<sup>9</sup> The term "special status species" includes those that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as threatened or endangered, but designated as "rare" or "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations, or policies adopted by local agencies such as counties, cities, and special districts to meet local conservation objectives.

- b) Although enhancement of existing riparian habitat is a component of the Program, restoration activities, such as bank stabilization or the removal of migration barriers, may have short-term adverse impacts on riparian habitat along the Shasta River and its tributaries.

The EIR will evaluate the potential impacts of the Covered Activities in the ITP and MSAA on riparian habitats, and identify impacts and mitigation measures on riparian and other sensitive natural communities.<sup>10</sup>

- c) Beyond the riparian habitats of the waterways themselves, the valleys support emergent wetlands, wet meadows and ponds, mostly seasonal in nature. All are part of the watershed system and most are under the jurisdiction of the Clean Water Act and are "waters of the state" regulated by the Regional Water Quality Control Board and, in some cases, CDFG. Recovery and compensatory actions prescribed by the ITP and MSAA will involve alteration of, working within, crossing, and/or minor filling of wetlands.

The EIR will evaluate the potential impacts of the Covered Activities in the ITP and MSAA on waters of the U.S. and the state, and prescribe appropriate mitigation measures.

- e) The *Conservation Element of the Siskiyou County General Plan* is the principle policy document for natural resource protection and stipulates "maintaining all species of fish and wildlife for their intrinsic and ecological values." The Program would not conflict with any local policies or ordinances protecting biological resources.
- f) Subsequent to the listing of coho salmon as a threatened species in the Southern Oregon/Northern California Coast Evolutionarily Significant Unit (ESU), and as an endangered species in the Central California Coast ESU, the California Fish and Game Commission directed CDFG to develop a Recovery Strategy for coho salmon in California. Planning for coho salmon recovery involves both state and federal actions because it is listed under both the federal ESA and CESA. The Recovery Strategy is the preliminary step toward a state recovery plan.

The Department initiated a multi-stakeholder, statewide Coho Recovery Team (CRT) to make recommendations on components of a plan to recover the species. Additionally, a team was created to focus on agricultural water and land issues in the Shasta and Scott River valleys. This team is known as the Shasta-

<sup>10</sup>Several specific native vegetative communities within California (as distinct from the organisms they support) have been identified as rare and/or sensitive. These natural communities are of special significance because the present rate of loss indicates that acreage reductions or habitat degradation could threaten the viability of dependent plant and wildlife species.

Scott Coho Recovery Team (SSRT). All of these actions constitute a conservation planning effort underway. The Program is an outcome of these planning efforts, and is thus not in conflict.

In 2005, the U.S. Fish and Wildlife Service published a final critical habitat (CH)<sup>11</sup> designation for 22 vernal pool ecosystem units in California and Oregon, including Siskiyou County. However, the CH units within Siskiyou County are well south of the Program Area.

The Shasta River watershed contains federally designated CH for coho salmon. Potential impacts of the Program on these areas will be evaluated in the EIR. The existence and relevance of any other protective plans, policies, and ordinances will also be determined in the EIR.

## Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>5. CULTURAL RESOURCES— Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

a, b, d) The Program would cover a variety of agricultural activities, as well as avoidance, minimization, and mitigation measures, some of which would entail earthmoving, mostly within stream banks and beds and riparian areas. These may have the potential to disturb historical or archeological resources, or human remains. The potential for such impacts will be evaluated in the EIR.

<sup>11</sup> Critical habitat designation is a component of species recovery planning as defined by the Federal Endangered Species Act.



- c) Covered Activities would take place in alluvial valleys of young age, which are unlikely to contain unique paleontological resources or unique geologic features. Therefore, there would be no impact on such resources or features from the Program.

## Geology, Soils, and Seismicity

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>6. GEOLOGY, SOILS, AND SEISMICITY— Would the project:</b>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The Program Area comprises the entire Shasta River watershed, which is located in Siskiyou County in central-northern California. The Shasta River watershed (795 square miles) is defined by two geomorphic provinces, the Klamath Mountains to the west and the Cascade Range (Cascades) to the east. Geomorphic provinces are naturally defined

geologic regions that display a distinct landscape or landform; eleven provinces are distinguished in California (CGS, 2002) with each region displaying unique, defining features based on geology, faults, topographic relief and climate.

Geologically, the Shasta River watershed can be described by three principal features: Shasta Valley (an intermontane, valley floor basin comprised chiefly of debris avalanche deposits and alluvium), the eastern edge of the Klamath Mountains (relatively old metamorphic, sedimentary, and plutonic rocks on the west), and the Cascade Range (relatively young volcanic rocks on the east). The Klamath Mountains on the west are characterized by complexly folded and faulted metamorphic, sedimentary, volcanic, and ultramafic rocks of Paleozoic age, intrusive plutonic rocks of Mesozoic age, and by marine sandstone and conglomerate of Cretaceous age (Mack, 1960; Wagner and Saucedo, 1987). On the east, Shasta Valley is bounded by the Cascade Range, which is dominated by Cenozoic age volcanic rock. The Cascade Range is a broad northward-trending series of giant volcanoes ranging in age from Pliocene to Recent and extending from British Columbia south to Lassen Peak in northern California. The volcanoes of Pliocene age are deeply eroded, whereas the more youthful volcanoes, which were formed by effusion during Pleistocene and Recent time, have been only slightly dissected (Mack, 1960). All of the known historic eruptions in the contiguous United States have been from volcanoes in the Cascade Range. The most prominent volcano of the high Cascades is Mount Shasta.

The Mount Shasta, standing at an elevation of 14,162 feet above mean sea level (amsl) southeast of the valley floor, is the highest point in the Shasta River watershed. Mount Shasta has continued to erupt at least once every 600-800 years for the past 10,000 years. It is possible that the most recent eruption of Mount Shasta was observed from the Pacific Ocean in 1786 although the source of that eruption has not been identified clearly (Christiansen et al., 1977). The youngest major unit erupted from the summit dome is named the Hotlum cone. Preliminary dating of volcanic events probably related to the Hotlum cone indicates that some of its eruptions occurred at least as recently as about 200 years ago (Christiansen et al., 1977). The summit dome still has active fumaroles and a small acid hot spring. An eruption from Mount Shasta could impact the program area, yet the potential for an event with unavoidable adverse impacts is considered low and is no different than for existing conditions.

Shasta Valley is a nearly oval, intermontane basin (Mack, 1960). The western edge and northern end of Shasta Valley is underlain by Quaternary alluvium deposited by the Shasta River and its tributaries. The eastern half of the valley, which is much flatter than the western part, is occupied largely by an extensive flow of basaltic lava recently erupted from the flanks of Mount Shasta (Mack, 1960). The rest of the Shasta Valley (i.e., most of the western half) is underlain by deposits of an exceptionally large debris avalanche of Pleistocene age that extends northward from the western flank of Mount Shasta.

### ***Morphology of the Shasta Valley***

The unique morphology of the Shasta Valley floor was shaped primarily by a gigantic debris avalanche [described by Crandell (1989)] that occurred 300,000 to 380,000 years ago (i.e., during the Pleistocene). The debris avalanche probably originated as a rapid succession of huge landslides of water-saturated rock on the northwest flank of ancestral Mount Shasta, each of which cut progressively deeper into the volcano. Two texturally distinct parts characterize the avalanche deposit: the block facies and the matrix facies. The matrix facies consist of an unsorted and unstratified mixture of pebbles, cobbles, and boulders in compact silty sand; texturally it resembles the deposit of a mudflow (Crandell, 1989). The block facies are responsible for the many small hillocks throughout the valley and include individual andesite blocks (many of which are pervasively shattered) ranging in size from tens to hundreds of meters in maximum dimension. In essence, a massive amount of material was entrained in a landslide from the ancestral Mount Shasta and large andesite blocks were scattered down the valley and a finer, more liquid, matrix flowed around them and down the valley. The avalanche deposits cover an area of at least 260 square miles and are overlain on the east by basaltic lava flows and on the south by andesitic lava flows, lahars, and alluvium from Mount Shasta. The morphology of the deposits has changed little since their emplacement; the lack of a well-integrated drainage system and absence of deep and widespread dissection of the deposits are due to the gently sloping surface and to the presence of resistant rock at the head of the Shasta River gorge northwest of Montague (this bedrock threshold is the base level for the upstream part of the Shasta River drainage basin). The Shasta River flows northward along the west side of the block facies as far as a point about 3 kilometers north of Edgewood, then turns and follows a northeastward course between parallel ridges formed by the block facies, as does Parks Creek (Crandell, 1989).

### ***Topography***

The Shasta River watershed slopes northward, draining to the Klamath River basin. The valley floor lies between altitudes of 2,400 and 2,800 feet amsl. Mount Shasta (as described above), in the southeast, is the highest point in the watershed. However, the Klamath Mountains on the east have a higher average elevation on the whole, the highest peak being Mount Eddy (9,038 feet amsl) some nine miles southwest of the City of Weed.

### ***Seismicity and Seismic Hazards***

There are no known active<sup>12</sup> faults in the Shasta River watershed. The nearest known active fault is the north to north-northwest trending Cedar Mountain-Mahogany fault zone (CM-MFZ) mapped approximately 6 miles east of the headwaters of the Little Shasta

<sup>12</sup> The term *active*, as used herein, refers to a fault for which there is evidence of displacement during Holocene time (i.e., the last 10,000 years) according to information summarized by Jennings (1994).

River. The other nearest significant seismic sources are the Hat Creek-McArthur-Mayfield (HC-M-MFZ) and Big Lagoon-Bald Mountain (BL-BMFZ) fault zones mapped approximately 38 miles (southeast) and 85 miles (southwest) from the Shasta River watershed, respectively. The assigned maximum earthquakes for the CM-MFZ and the HC-M-MFZ are 7.1 and 7.2, respectively (Cao et al., 2003). The BL-BMFZ has an assigned maximum earthquake magnitude of 7.5. Based on a Probabilistic Seismic Hazard Assessment Model by the U.S. Geological Survey (USGS) and the California Geological Survey (CGS) (2002) horizontal ground accelerations due to earthquakes that range from 0.1g (10 percent of the acceleration due to gravity) to 0.2g have a 10 percent probability of exceedance in 50 years in the central Siskiyou County area. This also means that there is a 90 percent probability that these ground accelerations will not be experienced in the next 50 years. The ground accelerations that have 10 percent probability of occurrence in 50 years are usually considered in the seismic design of typical structures. As a comparison, potential ground accelerations that are three to four times higher than those assigned to the central Siskiyou County area, having a similar probability of occurrence, are present in the San Francisco Bay area based on the Probabilistic Seismic Hazard Assessment Model.

### **Surface Fault Rupture**

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to movement on the fault plane. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Ground rupture is considered more likely along active faults. As described above, because there are no known active faults within the Program Area, the likelihood of surface fault rupture is very low and would not be a design consideration.

### **Ground Shaking**

Ground shaking in the Program area could occur as a result of an earthquake within the greater northern California or southern Oregon region. However, ground motions attenuate with distance from the causative fault and there are no known active faults in the Program area. Generally, Siskiyou County is an area of low seismic activity. There is no record of any death or injury resulting from earthquakes within the region and damage to buildings has been very minor (Siskiyou County, 1976). Accordingly, ground shaking in the Program area can be expected to have low to moderate intensities.

### **Liquefaction**

Liquefaction is a phenomenon in which unconsolidated and/or near saturated soils lose cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, pipelines, underground cables, and buildings with shallow foundations. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular

materials at depths less than 50 feet. Due to the relatively low potential for strong ground motions and lack of structural elements proposed within saturated loose soils, such as alluvium, liquefaction potential is not an issue for the Program.

### **Volcanic Eruptions**

An eruption from Mount Shasta could impact the Program Area. However, implementation of the Program would have no impact on the likelihood of such an event occurring.

## **Regulatory Context**

### **State**

#### **Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zones Act), signed into law in December 1972, requires the delineation of zones along active faults in California. The main purpose of the Alquist-Priolo Act is to prevent the construction of buildings to be used for human occupancy (2,000 person hours or more per year) on the surface trace of active faults. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. Cities and counties must regulate certain development projects within the zones, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future ground surface displacement (Hart and Bryant, 1997). Surface fault rupture is not necessarily restricted to the area within a Fault Rupture Hazard Zone, as designated under the Alquist-Priolo Act.

#### **California Building Code**

The California Building Code (CBC) is another name for the body of regulations found in Part 2 in title 24 of the California Code of Regulations, which is part of the California Building Standards Code (CBSC, 2001). Title 24 is assigned to the California Building Standards Commission which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in title 24 or they are not enforceable. The purpose of the CBC is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. Published by the International Conference of Building Officials, the UBC is a widely-adopted model building code in the United States. The CBC incorporates by reference the UBC with necessary California amendments. These amendments include significant building

design criteria that have been tailored for California earthquake conditions (CBSC, 2001). The national model code standards adopted into title 24 apply to all occupancies in California except for modifications adopted by state agencies and local governing bodies.

### **Local**

#### **Siskiyou County General Plan**

The Siskiyou County General Plan Land Use Element contains the following policies that could be applicable to the Program:

*Policy 1.* No development will be allowed in identified and potential landslide area unless certified by a licensed California Geologist, as reasonably safe for the development proposed.

*Policy 7.* Specific mitigation measures will be provided that lessen soil erosion, including contour grading, channelization, revegetation of disturbed slope and soils, and project timing (where feasible) to lessen the effect of seasonal factors (rainfall and wind).

### **Discussion**

The Program does not cover the construction of or modifications to any buildings or habitable structures. Hence, the building code regulations discussed above do not apply to the Program. Further, the structures that may be constructed under the Program (e.g., headgates, boulder weirs, and fish screens) are not among those listed by the Siskiyou County Department of Public Works (DPW) Building Department (2006) as requiring an inspection. Therefore, no structural impacts are anticipated as a result of Program implementation.

- a.i) There are no known active faults underlying the Shasta River watershed and, according to the State of California's Alquist-Priolo Earthquake Fault Zoning Map (Hart and Bryant, 1997), fault-rupture hazard zones have not been established for this area. Therefore, the Program would not have an impact related to exposing people or structures to substantial adverse effects stemming from the rupture of a known earthquake fault.
- a.ii) Ground shaking in the Program Area could occur as a result of an earthquake within the greater northern California or southern Oregon region. The nearest active fault (the Cedar Mountain-Mahogany Fault Zone) lies outside of the Shasta River watershed. Ground shaking within the Shasta River watershed due to seismic events is expected to have low intensities according to the USGS/CGS Probabilistic Seismic Hazards Assessment Model (2002). Thus, the

Program would not expose people or structures to substantial adverse effects involving strong ground shaking and this potential impact would be less than significant.

- a.iii) There are no known active faults in the Shasta River watershed and ground shaking induced by seismic activity is expected to be minimal. Therefore, the Program would not expose people or structures to substantial adverse effects involving seismic-related ground failure and this potential impact would be less than significant.
- a.iv) Most Covered Activities would take place within a stream or upon its banks and not upon hillslope areas (i.e., where most landslides occur). Further, Covered Activities in stream bank areas (e.g., riparian restoration, installation of fencing, and bank stabilization) where shallow landslides and slope failures may occur serve to stabilize these areas and would, if anything, result in a beneficial impact. Therefore, proposed structures and construction activities under the Program would not have an effect on landslides nor expose people or structures to potential substantial adverse effects involving landslides.
- b) Soil erosion and loss of topsoil could occur as a result of proposed construction activities within and adjacent to stream channels (i.e., on slopes directly connected to stream channels). In this case (i.e., relatively small scale, construction-related impacts), the principal concern with respect to soil erosion is the potential impact to water quality (i.e., increased turbidity) rather than the actual loss of topsoil from the slope. Disturbed surface soils could be entrained by overland runoff and delivered to adjacent streams or other type of water body. Thus, it is *both* processes (surface runoff and soil disturbance) that typically must be managed in these situations. As such, the potential impact of the Program upon soil erosion is discussed and analyzed in the section, *Hydrology and Water Quality*.
- c) Destabilization of natural or constructed slopes would not occur as a result of Program implementation. Most Program activities would take place within a stream or upon its banks and not upon hillslope areas (i.e., where most landslides occur). Further, Covered Activities in stream bank areas (e.g., riparian restoration, installation of fencing, and bank stabilization) where shallow landslides and slope failures may occur serve to stabilize these areas and would, if anything, result in a beneficial impact
- d) Shrink-swell or expansive soil behavior is a condition whereby a soil reacts to changes in moisture content by expanding or contracting; this activity may cause subsequent damage to buildings or structures with foundations in this type of soil.

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS, 2006) has summarized descriptive and spatial information regarding soils in the central part of Siskiyou County which includes the Program Area. Most of this information was derived from the Soil Survey for Siskiyou County, Central Part, published by the NRCS in 1983. The NRCS has mapped soils within the part of Siskiyou County comprising the Program Area and described the physical properties of the various soil types. Some of the soils have been characterized as having a high<sup>13</sup> shrink-swell potential and some Covered Activities may take place in the vicinity of such soils. However, the structures proposed are relatively minor and locating them within expansive soils would not create a substantial risk to life or property. Therefore, the potential impact concerning the possible location of Program components within expansive soils is considered less than significant.

- e) The Program does not include construction of or components related to septic tanks or an alternative wastewater disposal system. Therefore, there would be no impact to soils in the Program Area as a result of wastewater disposal.

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<sup>13</sup>Shrink-swell potential is commonly expressed as the linear extensibility percent (LEP), which is a measure of the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. As used herein, a *high* shrink-swell potential refers to soil types with an LEP greater than 6 percent.



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## Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>7. HAZARDS AND HAZARDOUS MATERIALS—Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Setting

### Regulatory Setting

#### Definitions

#### Hazardous Materials

Hazardous materials are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties: toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), and reactive (causes explosions or generates toxic gases).<sup>14</sup> Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications, as well as in residential areas to a limited extent.

#### Hazardous Waste

A hazardous waste is any hazardous material that is discarded, abandoned, or is to be recycled. Hazardous materials and wastes can result in public health hazards if released to the soil, groundwater, or air.

<sup>14</sup>Title 22 of the California Code of Regulations, Division 4.5, Chapter 11, Article 3.

## **Regulatory Framework**

### **Hazardous Materials Management**

Numerous local, state, and federal laws and regulations regulate the use, storage, and disposal of hazardous materials, including management of contaminated soils and groundwater. EPA is the federal agency that administers hazardous materials and waste regulations. State agencies include the California Environmental Protection Agency, which includes the Department of Toxic Substances Control, the North Coast RWQCB, the California Air Resources Board, and other offices. A description of agency jurisdiction and involvement in management of hazardous materials is provided below.

**United States Environmental Protection Agency.** EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. The legislation includes the Resource Conservation and Recovery Act of 1986 (RCRA), the Superfund Amendments and Reauthorization Acts of 1986 (SARA), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The federal regulations are primarily codified in title 40 of the Code of Federal Regulations (40 CFR). EPA provides oversight and supervision for site investigations and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

**California Department of Toxic Substances Control.** DTSC works in conjunction with EPA to enforce and implement specific laws and regulations pertaining to hazardous wastes. California legislation for which DTSC has primary enforcement authority includes the Hazardous Waste Control Act and the Hazardous Substance Account Act. Most state hazardous waste regulations are contained in title 22 of the California Code of Regulations. DTSC generally acts as the lead agency for soil and groundwater clean-up projects, and establishes clean up and action levels for subsurface contamination that are equal to, or more restrictive than, federal levels.

**North Coast Regional Water Quality Control Board.** The Program Area is within the jurisdiction of the North Coast RWQCB. RWQCBs are authorized by the California Porter-Cologne Water Quality Act of 1969 to implement water quality protection laws. RWQCBs provide oversight for sites where the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions.

**California Air Resources Board (CARB) and the Siskiyou County Air Pollution Control District (SCAPCD).** The Program Area is in the Northeast Plateau Air Basin. CARB and SCAPCD have joint responsibility for developing and enforcing regulations to achieve and maintain state and federal ambient air quality standards in the district. CARB is responsible for enforcing the Clean Air Act and the CAAQs. SCAPCD is responsible for regulating air emissions from stationary sources, monitoring air quality,

and reviewing air quality issues in environmental documents. The Air Quality section in this initial study further describes the responsibilities of CARB and SCAPCD, air quality conditions in the Northeast Plateau Air Basin, and potential air quality impacts associated with the Program.

**Local Hazardous Materials Management.** The agency responsible for local enforcement of state and federal laws controlling hazardous materials management in Siskiyou County is the Environmental Health Division of the County Public Health Department. This agency became the Certified Unified Program Agency (CUPA) for the county on January 1, 1997. The CUPA program regulates underground tanks, hazardous materials (including, but not limited to, hazardous substances, hazardous waste, and any material which a handler or the CUPA has reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment), and any unauthorized release of hazardous material. In addition, the CUPA program regulates medical waste and final disposal/transfer activities of solid waste.

**Worker Health and Safety.** Worker health and safety is regulated at the federal level by the federal Department of Industrial Relations. Worker health and safety in California is regulated by Cal/OSHA. California standards for workers dealing with hazardous materials are contained in title 8 in the California Code of Regulations, and include practices for all industries (known as "General Industry Safety Orders"), and specific practices for construction, and hazardous waste operations and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

## Discussion

- a) Covered Activities would not involve the routine transport, use, or disposal of hazardous materials. Therefore, there would be no impact of this kind.
- b) Construction activities and ongoing agricultural operations covered under the Program would involve use of heavy equipment and other machinery that use petroleum-based fuels, lubricants, and other fluids classified as hazardous materials. The routine use of such equipment and machinery carries the risk of leaks and spills due to accident, equipment failure, and routine fueling, lubricating, and maintenance. Because activities covered by the Program are not substantially different or more intensive than ongoing agricultural and construction activities already occurring in the Program Area, there would not be a substantial increase in the risk of leaks or spills.

As stated in the project description in this initial study, ITP General Condition B would require SVRCD and any sub-permittee to immediately stop, contain, and clean-up any fuel, lubricants, or other hazardous materials that leak or spill while

engaged in a Covered Activity. This condition further requires SVRCD or the sub-permittee to notify CDFG immediately of any leak or spill of hazardous materials into a stream or in a place where it can pass into a stream, and requires SVRCD and all sub-permittees to store and handle hazardous materials at least 150 feet away from the edge of mean high water elevation.

Because the Program would not substantially increase the use or risk of release of hazardous materials, and because ITP General Condition B would further reduce the risk of any release resulting in harmful contamination of the environment, this impact is considered less than significant.

- c) As noted in the previous discussion, the Program would not result in an increase in the use or risk of release of hazardous substances. Some Covered Activities may occur within one quarter mile of a school. However, these activities are indistinguishable from other agricultural operations and construction activities already occurring in the Program Area. In addition, ITP General Condition B, discussed above, would further reduce the risk of any release resulting in harmful contamination of the environment or exposure of people to hazardous substances.
- d) Government Code section 65962.5 requires several state agencies to compile and report lists of hazardous materials sites. Collectively, these lists are referred to as the "Cortese List" after the author of the enabling legislation. Included in the Cortese List are a list of releases from leaking underground storage tanks (LUSTs) compiled by the State Water Resources Control Board; a list of current Cease and Desist Orders (CDO) and Clean-Up and Abatement Orders (CAO) issued by the same agency; and a list of Hazardous Wastes and Substances sites compiled by DTSC. Within Siskiyou County, there are 62 active LUST sites; 32 active CDO and CAO sites; and one Hazardous Waste and Substances site. Several of these are located in the Shasta River watershed, but most of these are within the city limits of Weed or Yreka.

Because of the possibility of some Covered Activities occurring in or near one of the Cortese List sites, this issue will be further investigated in the EIR.

- e, f) The Program will not introduce new activities or inhabited structures within two miles of a public airport, public use airport, or private airstrip, and therefore would not pose a safety hazard to people residing or working in the Program Area.
- g) The Covered Activities under the Program would not interfere with an adopted emergency response plan or emergency evacuation plan.

- h) Most of the Covered Activities will occur in agricultural areas within Shasta Valley, and as such, there will be little risk of wildfire associated with them. Some activities may occur on the urban or wildland fringe, however, and may result in increased risk of wildfire. The potential for such an impact will be further examined in the EIR.

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## Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>8. HYDROLOGY AND WATER QUALITY— Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
f)	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j)	Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) The North Coast RWQCB has included the Shasta River in the 2002 CWA Section 303(d) List of Water Quality Limited Segment (NCRWQCB, 2002), which is a document listing impaired water bodies and the principal pollutants or stressors causing impairment. The Shasta River is listed as being impaired by organic enrichment/low dissolved oxygen (DO) and temperature (NCRWQCB, 2002). Subsequently, the Water Quality Control Plan for the North Coast Region (North Coast Basin Plan) (NCRWQCB, 2006) includes a list of objectives (qualitative and quantitative) related to the different sources of impairment.

Implementation of the Program may increase sedimentation (which may exacerbate organic enrichment and DO conditions) and water temperatures within the Shasta River. Potential sedimentation impacts would be related to construction activities covered by the Program (e.g., new or modified water diversion structures, fish screens, stream crossings, instream habitat structures, and barrier removal/fish passage projects) and would be temporary in nature. However, Covered Activities could also result in water quality impacts. For example, any new grazing operations covered by the Program could increase hillslope erosion and lead to increased sedimentation and organic enrichment (animal waste) within the Shasta River. New or modified water diversions could reduce instream flows by an amount sufficient to result in higher average water temperatures. Further, Covered Activities that include instream structures (e.g., boulder weirs, constrictors, and placement of woody debris) could pond water at low flows and result in warmer water temperatures, depending on the specific location and nature of installation. These water quality impacts could potentially be significant and will be addressed in further detail in an EIR.

- b) Implementation of the Program, specifically the practice of an alternative stock watering system (i.e., using groundwater in place of surface water), could impact local groundwater supplies or recharge. Concerning production or irrigation wells, the severity of this potential impact would depend in great part on the proximity of a given project to other planned or existing wells and the hydrogeologic characteristics of the local aquifer. Further, excessive groundwater extraction could reduce groundwater discharge to nearby streams and significantly lower the magnitude and/or reduce the duration of base flow. These groundwater impacts could potentially be significant and will be addressed in further detail in an EIR.
- c) Implementation of the Program could alter an existing stream (e.g., the Shasta River and/or one or more of its tributaries), such that substantial instream erosion or sedimentation would result. Certain instream components the Program covers could significantly affect stream hydraulics and sediment transport; these components include new or modified water diversion structures, boulder weirs, constrictors, bank protection projects, and gravel augmentation projects. Structures that would span all or most of the stream channel width (i.e., diversions and weirs) could decrease local stream gradient, causing sediment accumulation, and/or result in bed scour immediately downstream of the structure. Bank protection projects would serve to deflect the flow stress exerted on stream banks to the bed, which could increase bed scour and erosion. Gravel augmentation projects could decrease stream sediment transport capacity and/or increase the scour potential of large flows. These impacts on stream hydraulics and sediment transport could potentially be significant and will be addressed in further detail in an EIR.
- d) Implementation of the Program could alter an existing stream (e.g., the Shasta River and/or one or more of its tributaries), such that increased localized flooding would result. Certain Program components could increase the hydraulic roughness (i.e., boundary resistance to flow) of a stream and subsequently decrease its capacity to convey high flows. Those components include new or modified water diversion structures, boulder weirs or clusters, engineered habitat structures, and placement of large woody debris. For a given flood discharge, if hydraulic roughness is substantially increased (and all other hydraulic parameters remain unchanged) then flow velocity would decrease and the cross-sectional area of the flow would increase. In other words, the flow would have an increased tendency to pool, or back-up, and flood a local area. This consequence would likely only be a concern if a project relevant to this impact was implemented adjacent to an existing road or trail. This impact upon stream channel capacity could potentially be significant and will be addressed in further detail in an EIR.



- e) The Program would not create a substantial amount of impervious or altered surfaces, or otherwise create or contribute substantial amounts of additional runoff within the landscape. Therefore, the Program would have no impact upon existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, other than the potential water quality impacts discussed above.
- f) The Program would not otherwise degrade water quality, and therefore would not have an impact upon water quality outside of the potential impacts already discussed above.
- g) The Program does not propose new housing and therefore would have no impact upon placement of housing within a 100-year flood hazard area.
- h) The Federal Emergency Management Agency (FEMA) is responsible for mapping areas subject to flooding during a 100-year flood event (i.e., a flood with a 1 percent chance of occurring in any given year). FEMA (2004) has designated and mapped the 100-year flood hazard zone for the Shasta River watershed and some components of the Program would be implemented within this zone. As discussed above, some instream Program components could impact hydraulic roughness characteristics and stream channel capacity. Those components include new or modified water diversion structures, boulder weirs, constrictors, bank protection projects, and gravel augmentation projects. However, a 100-year flood is often orders of magnitude larger than the annual flood or a flood experienced every few years, on average. Those smaller, more frequent floods are more relevant when considering the scale of the structures proposed as part of the Program; such potential flooding impacts have been discussed above. The structures proposed are not substantial enough to impede or redirect a flow with the magnitude of a 100-year flood event, and therefore this potential impact would be less than significant.
- i) The Program would not expose people or structures to a significant risk of loss, injury or death involving flooding and, therefore, would have no impact concerning this criterion.
- j) The Program is not located in an area that would be affected by a seiche or tsunami. Parts of the Program Area, particularly the steep uplands, may experience mudflows or be relatively more susceptible to mudflow hazards. Mount Shasta, in the southeast of the Shasta River watershed, is an active volcano whose latest lava flows are probably not more than a few centuries old according to Mack (1960). In an extreme scenario, an eruption or other catastrophic seismic event on Mount Shasta could trigger a lahar or mudflow-like event capable of filling the entire Shasta Valley. Proposed instream structures

could be damaged or even destroyed in the event of a mudflow. However, such events are extremely rare and the potential risk of loss involving a mudflow (or debris avalanche) is not a significant one and, thus, the potential impacts associated with mudflows or debris avalanches would be less than significant.

## References

- Federal Emergency Management Agency, 2004. Q3 Flood Data, California. Digital database (ArcGIS), Disc 1.
- Mack, S., 1960. *Geology and Ground-Water Features of Shasta Valley, Siskiyou County California*. U.S. Geological Survey Water-Supply Paper 1484, 115 p.
- North Coast Regional Water Quality Control Board., 2002. *2002 Clean Water Act Section 303(d) List of Water Quality Limited Segment*. Approved by U.S. Environmental Protection Agency in July, 2003. Available online: [http://www.swrcb.ca.gov/tmdl/303d\\_lists.html](http://www.swrcb.ca.gov/tmdl/303d_lists.html)
- North Coast Regional Water Quality Control Board, 2006. *Water Quality Control Plan for the North Coast Region*. September, 2006. Available online: <http://www.waterboards.ca.gov/northcoast/programs/basinplan/bpdocs.html>

## Land Use and Land Use Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>9. LAND USE AND LAND USE PLANNING— Would the project:</b>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) The Program would not physically divide an established community. Most or all of the Covered Activities are located either in or next to a stream channel.

- b) As stated under Agricultural Resources above the Program provides take authorization under CESA and coverage under section 1602 for specific "Covered Activities." These include, but are not limited to, water diversions and actions to restore coho salmon habitat (see ITP and MSAA Covered Activities above). The ITP requires specific avoidance; minimization, and mitigation measures to protect coho salmon and to implement key coho salmon recovery tasks (see Conditions of Approval above). Implementation of the Program has the potential to impacts agricultural resources and will be evaluated in the EIR.
- c) The Program would not conflict with any applicable habitat conservation plan or natural community conservation plan.

## References

Siskiyou County, *Siskiyou County General Plan, Land Use and Circulation Element*, 1980.

## Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>10. MINERAL RESOURCES—Would the project:</b>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a,b) The Program covers only ongoing, legal agricultural activities, and as such would not have an effect on mining or mineral resources.

## Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>11. NOISE—Would the project:</b>				
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

### Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels are rarely persist consistently over a long period of time. In fact, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) makes community noise constantly variable throughout a day.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

- L<sub>eq</sub>:** The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L<sub>eq</sub> is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- L<sub>dn</sub>:** The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

### ***Effects of Noise on People***

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the L<sub>dn</sub> noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the L<sub>dn</sub> is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas, and levels up to 85 dBA occur near major freeways and airports.

### ***Noise Attenuation***

Point sources of noise, including stationary mobile sources such as idling vehicles or onsite construction equipment, attenuate (lessen) at a rate of 6.0 dBA to 7.5 dBA per doubling of distance from the source, depending upon environmental conditions (e.g., atmospheric conditions, noise barriers, type of ground surface, etc.). Widely distributed noises such as a large industrial facility spread over many acres or a street with moving vehicles (a "line" source) would typically attenuate at a lower rate of approximately 3.0 to 4.5 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 1998).

## Existing Ambient Noise Environment

The Program Area encompasses rural residential, agricultural, and open space areas in north-central Siskiyou County. The primary contributors to the noise environment in the Program Area include vehicle traffic on highways and county roads; airplane overflights; sounds associated with agricultural and construction activities including use of heavy equipment and power tools; sounds emanating from residential neighborhoods, including voices, noises from household appliances, and radio and television broadcasts; and naturally occurring sounds such as wind and wind-generated rustling. Additional noise sources may include electrical and industrial devices and other man-made localized sources. Generally, intermittent short-term noises do not significantly contribute to longer-term noise averages.

Ambient natural noise sources also include wind, which is much more common than calm conditions throughout the Program Area, and is expected to generate noise levels in the range of 45 to 50 dBA. Ambient daytime  $L_{eq}$  noise levels in the vicinity of residences and in the agricultural areas of the Program Area can be expected to be between 50 and 55 dBA. Measured  $L_{dn}$  noise levels near Interstate 5 (I-5) range from 75 dBA at a distance of approximately 180 feet, to 60 dBA at a distance of approximately 460 feet. Measured  $L_{dn}$  noise levels near SR 97 range from 75 dBA at a distance of 120 feet from the roadway, to 60 dBA at a distance of 400 feet (CPUC, 2006).

Three general aviation airports (Weed Airport, Montague-Yreka Rohrer Field Airport, and Siskiyou County Airport) are located within the Program Area. Weed Airport is approximately four miles northwest of the City of Weed adjacent to I-5. It has one runway that is 5,000 feet long and 60 feet wide (Siskiyou County, 2006a). Montague-Yreka Rohrer Field Airport is approximately one mile west of the City of Montague. The Montague-Yreka Rohrer Field Airport has two runways; one is 2,080 feet long and 100 feet wide and the other is 3,360 feet long and 50 feet wide (Airport Data, 2006). Siskiyou County Airport is located four miles northeast of the City of Montague. It has a single runway, 7,484 feet long and 150 feet wide and can accommodate most narrow bodied airline jets (Siskiyou County, 2006a). Ambient noise levels in the vicinity of these airports are elevated.

## Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

The Covered Activities would occur primarily in rural agricultural areas throughout the north-central portion of the County. It is anticipated that some of the Covered Activities would occur in close proximity to rural residential receptors.

## **Regulatory Context**

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

### ***Siskiyou County***

The Siskiyou County General Plan Noise Element provides audible noise standards appropriate for the operations of development projects. The General Plan identifies land use compatibility for community noise. According to the General Plan, residences are the most sensitive land use. It sets a noise limit for residential land uses of 60 dBA. For new development within a residential land use area, noise limits range from 60 to 65 dBA with noise abatement features included.

Construction noise sources such as those that would result with implementation of the Program are typically regulated on the local level through enforcement of noise ordinances, implementation of general plan policies, and imposition of conditions of approval for permits. However, Siskiyou County does not have general plan standards or municipal codes that address short-term construction noise (Siskiyou County, 2006).

## **Discussion**

- a, d) Covered Activities, such as the installation of water diversion structures, installation of fish screens and boulder weirs, barrier removal projects (e.g., the Grenada Irrigation District Fish Barrier Removal Project), and installation of instream habitat improvement structures may require the use of heavy equipment, such as loaders, backhoes, or excavators and haul trucks. Some of the Covered Activities would also require the operation of stationary pumps within or adjacent to active stream channels. Offsite noise sources would result from commuting workers (anticipated to be less than 10 per day for each Covered Activity during construction) and from heavy truck trips (anticipated to be up to three per day for each Covered Activity during construction).

Covered Activities would occur between July 1 and October 31, pursuant to ITP General Condition G. The majority of the Covered Activities would take place in open agricultural areas, though some construction activities may occur near residences. Sustained construction activities under the Program are expected to last no longer than one to two weeks at each of the activity site.

Noise levels generated by construction activities would vary depending on the particular type and duration of use of various pieces of construction equipment. Typical noise levels of construction equipment that may be used to construct some of the Program activities are listed in Table 11-1.

**TABLE 11-1  
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT**

Construction Equipment	Noise Level (dBA, $L_{eq}$ at 50 feet)
Truck	88
Dozer	85
Loader	85
Backhoe	80
Generator (compressor)	81

SOURCE: FTA, 2006.

As shown in Table 11-1, intermittent and continuous use of construction equipment could generate noise levels in excess of 85 dBA at 50 feet. This equates to a noise level of approximately 79 dBA at 100 feet or as high as 73 dBA at 200 feet. The duration of noise impacts would be relatively brief, estimated to be no more than approximately one to two weeks at any one location. Given the short duration of impacts at any one location, construction noise would not be considered significant at affected residences if construction would be limited to daytime hours. A general condition will be considered for inclusion to the ITP and MSAA to insure that the impact of construction noise would be less than significant. If a noise reduction condition is not included as a general condition in the ITP and MSAA, the potential impact will be evaluated in the EIR.

It should be noted that the Covered Activities would cause only minor changes to existing, ongoing, legal water diversions and other in-stream and near-stream activities. Because these activities are considered ongoing and also part of the baseline conditions, there would essentially be no change in ambient conditions as a result of Program implementation.



- b) The use of blasting and/or pile drivers that typically generate excessive groundborne vibration or groundborne noise would not be included as part of the Covered Activities. Some of the Covered Activities would involve temporary sources of groundborne vibration and groundborne noise during construction from operation of heavy equipment. During construction, operation of heavy equipment would generate localized groundborne vibration and groundborne noise that could be perceptible at residences or other sensitive uses in the immediate vicinity of a given construction area. However, groundborne vibrations attenuate rapidly from their source, and since the duration of impact at any one location would be very brief (estimated to be from one to two weeks) and since the impact would occur during less sensitive daytime hours (i.e., between 7:00 a.m. and 7:00 p.m.), the impact from construction-related groundborne vibration and groundborne noise would be less than significant.
- c) As discussed in (d) above, Covered Activities would cause only minor changes to existing, ongoing, legal water diversions and other in-stream and near-stream activities. Because these activities are considered ongoing and also part of the baseline conditions, there would essentially be no change in ambient conditions as a result of the Program implementation. In addition, Covered Activities would consist of short-term construction projects dispersed throughout the Program Area. Therefore, there would be no long-term noise impacts on ambient noise levels. Impacts would be less than significant.
- e) The Program would not involve the development of noise-sensitive land uses, and therefore would not expose people to excessive aircraft noise. No impacts would occur.
- f) The Program would not involve the development of noise-sensitive land uses, and thus, would not expose people to excessive aircraft noise. No impacts would occur.

## References – Noise

- Airport Data. 2006. FAA Information about Montague-Yreka Rohrer Field Airport (105). Accessed website (<http://www.airport-data.com/airport/105>) on June 8, 2006.
- California Department of Transportation. 1998. *Technical Noise Supplement*, 1998.
- California Public Utilities Commission (CPUC). 2006. Draft Initial Study/Mitigated Negative Declaration for PacifiCorp's Yreka-Weed Transmission Line Upgrade Project. August.
- Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*, May 2006.

Siskiyou County. 2006a. Accessed the Siskiyou County Airports website (<http://www.co.siskiyou.ca.us/dpw/airports.htm>) on June 8, 2006.

Siskiyou County. 2006. Personal communication with Pat Matthews of the Siskiyou County Planning Department, July 24, 2006.

## Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>12. POPULATION AND HOUSING— Would the project:</b>				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

a,b,c) The Program is limited to activities that are either part of normal, ongoing agricultural operations or involve riparian and streambed restoration. The Program would not induce substantial population growth, displace substantial numbers of existing housing or people, and therefore would not have an adverse affect on population and housing.

## Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>13. PUBLIC SERVICES— Would the project:</b>				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

a.i, a.ii, a.v) The Program covers specified, lawful activities, including both agricultural water diversions and other agricultural operations, as well as actions to restore or improve coho salmon habitat, and would not generate the need for additional police or fire protection services or other public facilities or services. Short-term construction activities could result in a temporary, minor increase in the need for emergency response in the event of an accident or fire, but would be within the context of normal public service demands within the Shasta River watershed. Because any increase in public service demands would be temporary and short-term in nature, any impact is considered to be less-than-significant.

a.iii) The Program is focused on typical agricultural operations and coho salmon habitat restoration actions within a working agricultural landscape, and would not impact school enrollment numbers, or require provision of additional facilities to maintain acceptable student-teacher ratios.

a.iv) The Program would not result in demand for additional parks or put undue burdens on existing parks. Therefore, there would not be a significant impact related to parks.

## Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>14. RECREATION—Would the project:</b>				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

a, b) The Program primarily applies to projects on private lands, either in or near the stream channel. However, there could be some instances within the watershed where Covered Activities take place in a public recreation area, which may require temporary closures or restricted access to recreational facilities (e.g., recreation areas, parks, or trails) during construction activities. However, given that closures or restrictions would be temporary and short-term in nature, the diversion of recreational users to other areas would not result in substantial deterioration of regional parks and public open space, and any impact would be less than significant.

## Transportation and Traffic

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>15. TRANSPORTATION AND TRAFFIC—Would the project:</b>				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

Covered Activities would primarily occur in the rural, low-density areas of north-central Siskiyou County. Regional and local access to the activity sites would be provided by several state and local roadways, each of which would be used to transport construction materials, equipment, and workers to the various sites. The Program Area and surrounding roadway network are illustrated in Figure 1. The paragraphs below provide descriptions of the regional and local roadway network.

### Regional Roadways

**Interstate 5 (I-5)** is a north-south freeway that extends from the Mexican border to the Canadian border, traversing the states of California, Oregon, and Washington. I-5 is generally a four-lane, limited access freeway that traverses the western side of the Shasta Valley. Traffic volumes along I-5 in the area are highest south of Weed, with an annual average daily traffic (ADT) level of 22,900 vehicles per day (vpd). North of Yreka traffic volumes are lower, with annual ADT levels below 15,000 (Caltrans, 2006).

**State Route 97 (SR 97)** is a southwest-northeast oriented highway that extends from I-5 in Weed, up through Klamath Falls, Oregon and Yakima, Washington, to the Canadian border. This highway is generally a two-lane route with pull-out lanes on steep inclines and turn lanes at major intersections and crossroads. In the Program Area, SR 97 skirts the southern end of the valley, south of Lake Shastina. Traffic volumes in the Weed area are several times higher near the I-5 interchange compared to several miles northeast of the interchange. For example, immediately northeast of the I-5 interchange, the annual ADT level is 12,300 vpd, while north of Big Springs Road (approximately 4.5 miles northeast of the interchange) the annual ADT is 3,250 vpd (Caltrans, 2006).

**State Route 3 (SR 3)** is a two-lane highway that extends from the City of Montague in Siskiyou County down to State Route 36 in Trinity County. In the Program Area the highway extends east from Montague to I-5 in Yreka, where SR 3 and I-5 join for several miles until near Sharps Road, where SR 3 separates from I-5 and follows Yreka Creek

southwest out of the valley. Traffic volumes along SR 3 in the area range from ADT levels of approximately 3,000 vpd southwest of Yreka and near Montague, to over 14,000 vpd in Yreka (Caltrans, 2006).

**Old Highway 99** is a two-lane County road with paved shoulders that generally parallels the west side of I-5 from south of Yreka to Weed. This road experiences a moderate amount of traffic. Old Highway 99 had a recent ADT rate of 2,019 vpd one mile north of the 99-87 Cut Off (County Road A12), as reported in a 2006 traffic count (Siskiyou County, 2006).

**99-87 Cutoff (County Road A12)** is a two-lane County road with paved shoulders. The road extends from I-5 in Grenada towards the southeast where it terminates at SR-97.

**Other County Roads.** Other two-lane County roads that provide regional access to the Program Area include Montague Grenada Road, Ager Road, Airport Road, Shasta Road, Little Shasta Road, Harry Cash Road, and others.

### ***Local Roadways***

The local roadways that would be used to access the activity sites would primarily be county and private roadways in the rural agricultural areas of north-central Siskiyou County. The majority of the local roads have relatively low to very low traffic volumes, have two-lanes with unimproved shoulders, and may have a dirt or paved surface.

## **Regulatory Context**

The development and regulation of the transportation network in the Program Area primarily involves state and local jurisdictions. All roads within the Program Area are under the jurisdiction of state or local agencies or a private landowner. State jurisdiction includes permitting and regulation of the use of state roads, while local jurisdiction includes implementation of state permitting, policies, and regulations, as well as management and regulation of local roads. It is not anticipated that any construction work that is part of a Covered Activity would occur directly within a public roadway, which would require encroachment permits prior to commencing work in the public ROW from all jurisdictions that manage or maintain the applicable roadway(s). Applicable state and local laws and regulations related to traffic and transportation issues are discussed below.

### ***California Department of Transportation***

The California Department of Transportation (Caltrans) manages interregional transportation, including management of construction activities within the California highway system. Caltrans is responsible for permitting and regulating the use of state roadways. Caltrans requires that permits be obtained from its District 2 Office for transportation of oversized loads and certain materials, and for construction-related

traffic disturbances in the Program Area. Caltrans permit requirements would apply to the transportation of oversized loads associated with the construction and operation of Covered Activities.

### ***Siskiyou County***

The majority of the roads that would provide direct access to activity sites within the Program Area are under the jurisdiction of Siskiyou County. County policies and regulations regarding the design of roadways are contained in the circulation element of the Siskiyou County General Plan. However, because the plan focuses on the design and implementation of circulation system improvements, policies in this element do not directly relate to the Covered Activities.

Similar to Caltrans, the Siskiyou County Public Works Road Department would require Program participants to obtain a Transportation Permit from the county if the Covered Activity required hauling of oversized or heavy loads on county roads. The permit would stipulate which roads would be authorized for use, as well as any other specific conditions or restrictions that would be required.

### **Transportation and Traffic Issues**

- a) Covered Activities involving construction would result in short-term increases in traffic volumes (a combination of construction worker vehicles and vehicles carrying material and equipment to and from the various Program activity sites). Traffic levels that would be generated on area roadways would vary depending on the particular type and duration of activity. The most intensive construction activities that would occur under the Program would be associated with building water diversion structures (e.g., boulder weirs, and headgates, and maintenance of sump ponds), installation of fish screens and riparian fencing, barrier removals riparian fencing, barrier removal projects (e.g., the Grenada Irrigation District Fish Barrier Removal Project), and installation of in-stream habitat improvement structures.

It is anticipated that each activity covered under the Program would require no more than five to ten days of active construction work and would require less than ten commuting worker trips and an average of up to three heavy truck trips to the activity sites each workday. Covered Activities would occur between July 1 and October 31, pursuant to ITP General Condition G.

Construction generated traffic in the Program Area would be temporary, and therefore would not result in any long-term, ongoing effects on traffic operating conditions. The impact of construction-related traffic would be a temporary and intermittent lessening of the capacities of Program Area streets because of the slower movements and larger turning radii of construction trucks compared to

passenger vehicles. Most construction truck traffic would be dispersed throughout the day and throughout the Program Area. Thus, the temporary increases would not significantly disrupt traffic flow on any of the roadways in the Program Area. Program participants would need to satisfy both Caltrans and Siskiyou County permit requirements for oversized loads, which would include conditions and other requirements designed to alleviate impacts on the local transportation system.

Given the limited and dispersed nature of Program-generated traffic and that Program participants would be required to obtain transportation permits for oversized truck loads, traffic-related impacts associated with the Program would be less than significant.

- b) Level-of-service (LOS) standards established by jurisdictions (local, county, and state) for roadways in those jurisdictions are intended to regulate long-term traffic increases from operation of new development and do not apply to temporary construction projects. As such, Covered Activities (with their temporary and intermittent traffic generation, described in (a) above) would not exceed, either individually or cumulatively, LOS standards established by Siskiyou County or other agencies responsible for area roadways.
- c) Implementation of the Program would not change air traffic patterns. No impacts would occur.
- d) The Covered Activities would not change the configuration (alignment) of area roadways, and would not introduce types of vehicles that are not already traveling on area roads. However, heavy trucks operating on public roads could increase the risk of accidents through interaction with other vehicles. Potential conflicts could also occur between construction traffic and alternative modes of transportation (e.g., bicyclists and buses). However, because of the limited and dispersed nature of Program-generated traffic and because Program participants would be required to obtain transportation permits for oversized truck loads, which would include route restrictions and safety requirements if applicable, traffic-related incompatible use impacts associated with the Program would be less than significant.
- e) Implementation of the Program would not result in inadequate emergency access. Covered Activities would not require work directly within a public road and would not result in any other actions that could block emergency access. No impacts would occur.
- f) Construction vehicles associated with Program activities that would transport materials and workers to and from the various construction sites would likely be temporarily parked onsite, at the activity locations. Given the dispersed nature



and small size of the anticipated construction workforces, implementation of the Program would not generate a substantial number of parked vehicles; therefore, impacts would be less than significant.

- g) The Program would have no long-term impact on demand for alternative transportation or on alternative transportation facilities. No impacts would occur.

## References – Transportation and Traffic

California Department of Transportation, 2006. 2005 Traffic Volumes on California State Highways. Accessed the Traffic and Vehicle Data Systems Unit website (<http://www.dot.ca.gov/hq/traffops/saferesr/trafddata/index.htm>) on September 26, 2006.

Siskiyou County. 2006. Personal communication with Jeremy Lipke, Civil Engineering Assistant with the Siskiyou County Pubic Works, on June 26, 2006.

## Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>16. UTILITIES AND SERVICE SYSTEMS—Would the project:</b>				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Require new or expanded water supply resources or entitlements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) The Program would not generate wastewater and therefore would not conflict with wastewater treatment requirements of the North Coast RWQCB.
- b) The Program would not require the construction of new water or wastewater treatment facilities or the expansion of existing facilities.
- c) The Program would not require the construction of new storm water drainage facilities or expansion of existing facilities.
- d) The Program would require SVRCD to improve baseline instream flows within critical reaches of the Shasta River and its tributaries and at critical life stages of coho salmon by installing water efficiency improvement projects on sub-permittees' properties or by changing or adding points of diversion to keep flows instream to point of use. Projects that could be implemented to improve instream flows are: 1) the upgrade of agricultural water delivery systems to reduce waste; 2) the upgrade of water application systems; and 3) moving or adding points of diversion downstream near point of use. With these possible baseline instream flow improvements, there may be potential impacts to existing irrigation systems, including those controlled by irrigation districts. This topic requires further evaluation in the EIR.
- e) There is not a connection between project implementation and wastewater treatment provision.
- f) Covered Activities would not be expected to generate substantial volumes of solid waste, and much of the waste that is generated could be recycled. The Yreka Solid Waste Landfill, the only permitted, operating landfill in Siskiyou County, is owned and operated by the City of Yreka. This landfill has sufficient capacity through approximately 2065 at the projected rate of waste acceptance (CIWMB, 2006).
- g) Individual projects under the ITP would be subject to local, state, and federal statutes regarding solid waste.

## References

California Integrated Waste Management Board, Solid Waste Information System (database of California landfills and other solid waste facilities), [www.ciwmb.ca.gov/SWIS](http://www.ciwmb.ca.gov/SWIS) Accessed 9/27/06.

## Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>17. MANDATORY FINDINGS OF SIGNIFICANCE— Would the project:</b>				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) As discussed under Biological Resources above, the Program has the potential to result in take of coho salmon, a listed species. This potential will be investigated in the EIR.
- b) The Program would authorize a potentially large number of individual activities, mostly located in and near fish-bearing streams. The EIR will examine the cumulative impacts of the Covered Activities, assuming that a large number of such activities will be implemented following approval of the Program. The cumulative analysis in the EIR will focus on cumulative effects of the Covered Activities, in addition to other past, current, and probable future projects that may affect stream resources, particularly coho salmon and other anadromous salmonids, on hydrology of the affected streams, and cumulative, indirect effects on land use in the Shasta River watershed.
- c) The Program would not increase the risk of physical harm to human beings, either directly or indirectly. The potential for the Program to indirectly affect human beings through possible pressures to change land use, notably the potential to induce a shift from agricultural to other uses, will be examined in the EIR.

## APPENDIX AQ

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Sum of Ems Factor #/hr		Year2007 Pollutant				
Equipment Name	Hp	CO	NOx	PM10	SOx	VOC
Bore/Drill Rigs	50	0.19	0.263	0.021	0.075	0.038
	175	0.688	1.023	0.043	0.294	0.054
	Composite	0.476	1.252	0.048	0.329	0.067
Cement and Mortar Mixers	Composite	0.046	0.076	0.005	0	0.01
Concrete/Industrial Saws	50	0.358	0.323	0.044	0.077	0.087
	175	1.007	2.014	0	0.282	0
	Composite	0.451	0.778	0.071	0.128	0.119
Cranes	50	0.282	0.238	0.03	0.053	0.101
	175	0.454	0.904	0.057	0.167	0.09
	Composite	0.355	1.023	0.052	0.196	0.086
Crawler Tractors	50	0.35	0.28	0.047	0.053	0.155
	175	0.727	1.652	0.102	0.251	0.172
	Composite	0.631	1.521	0.1	0.232	0.161
Crushing/Proc. Equipment	50	0.628	0.5	0.07	0.105	0.229
	175	1.007	2.289	0.141	0.348	0.241
	Composite	0.854	1.748	0.126	0.268	0.221
Dumpers/Tenders	Composite	0.044	0.077	0	0	0
Excavators	50	0.243	0.241	0.028	0.059	0.076
	175	0.597	1.125	0.064	0.233	0.102
	Composite	0.472	1.138	0.06	0.243	0.097
Forklifts	50	0.252	0.173	0.027	0	0.096
	175	0.358	0.766	0.054	0.001	0.089
	Composite	0.259	0.457	0.05	0	0.079
Generator Sets	50	0.306	0.322	0.036	0	0.108
	175	0.758	1.719	0.091	0.002	0.164
	Composite	0.322	0.656	0.048	0.001	0.094
Graders	50	0.309	0.285	0.025	0.073	0.124
	175	0.672	1.377	0.082	0.257	0.134
	Composite	0.546	1.442	0.074	0.276	0.124
Off-Highway Tractors	175	0.771	1.751	0.106	0.27	0.181
	Composite	0.695	1.953	0.095	0.31	0.169
Off-Highway Trucks	175	0.74	1.507	0.1	0.258	0.164
	Composite	0.641	2.731	0.096	0.494	0.187
Other Construction Equipment	50	0.333	0.303	0.037	0.066	0.135
	175	0.599	1.363	0.077	0.22	0.133
	Composite	0.561	1.38	0.065	0.223	0.118
Pavers	50	0.26	0.269	0.03	0.067	0.08
	175	0.668	1.298	0.071	0.266	0.117
	Composite	0.435	0.802	0.058	0.165	0.098

Sum of Ems Factor #/hr		Year2007 Pollutant				
Equipment Name	Hp	CO	NOx	PM10	SOx	VOC
Paving Equipment	50	0.284	0.261	0.033	0.06	0.11
	175	0.57	1.298	0.074	0.21	0.128
	Composite	0.411	0.909	0.066	0.144	0.107
Plate Compactors	Composite	0.026	0.039	0.002	0	0.009
Rollers	50	0.235	0.248	0.027	0.062	0.071
	175	0.558	1.085	0.059	0.224	0.095
	Composite	0.364	0.697	0.051	0.139	0.077
Rough Terrain Forklifts	50	0.355	0.336	0.041	0.081	0.113
	175	0.676	1.312	0.077	0.259	0.124
	Composite	0.446	0.806	0.073	0.15	0.101
Rubber Tired Dozers	175	0.67	1.191	0.037	0.273	0.186
	Composite	1.024	2.817	0.112	0.452	0.211
Rubber Tired Loaders	50	0.343	0.312	0.039	0.074	0.111
	175	0.584	1.133	0.068	0.221	0.109
	Composite	0.425	1.111	0.063	0.221	0.099
Scrapers	175	0.85	1.867	0.117	0.307	0.193
	Composite	0.816	2.839	0.114	0.496	0.207
Signal Boards	50	0.385	0.385	0.048	0.094	0.24
	175	0.857	1.949	0.108	0.322	0.184
	Composite	0.097	0.185	0.013	0.024	0.021
Skid Steer Loaders	50	0.191	0.228	0.022	0.061	0.048
	Composite	0.204	0.287	0.025	0.067	0.045
Surfacing Equipment	50	0.157	0.141	0.016	0.031	0
	175	0.495	1.089	0	0.195	0
	Composite	0.67	1.827	0.062	0.307	0.104
Tractors/Loaders/Backhoes	50	0.472	0.353	0.052	0.072	0.179
	175	0.632	1.433	0.093	0.21	0.154
	Composite	0.419	0.816	0.083	0.115	0.125
Trenchers	50	0.269	0.306	0.032	0.079	0.079
	175	0.727	1.374	0.071	0.299	0.116
	Composite	0.365	0.596	0.05	0.127	0.083
Welders	50	0.316	0.285	0.036	0	0.117
	175	0.572	1.266	0.063	0.001	0.135
	Composite	0.232	0.318	0.034	0	0.079

					Emission Factor lbs/hour					Annual Emissions lbs				
					CO	NOx	PM	SOx	VOC	CO	NOx	PM	SOx	VOC
<b>ONSITE EMISSIONS</b>														
Dozer			8.00	84.00	1.024	2.817	0.112	0.452	0.211	688.13	1893.02	75.26	303.74	141.79
Loader			8.00	84.00	0.425	1.111	0.063	0.221	0.099	285.60	746.59	42.34	148.51	66.53
Backhoe			8.00	84.00	0.419	0.816	0.083	0.115	0.125	281.57	548.35	55.78	77.28	84.00
					<b>Onsite Total (lbs/year)</b>					<b>1255.30</b>	<b>3187.97</b>	<b>173.38</b>	<b>529.54</b>	<b>292.32</b>
					<b>Onsite Total (tons/year)</b>					<b>0.63</b>	<b>1.59</b>	<b>0.09</b>	<b>0.26</b>	<b>0.15</b>
<b>OFFSITE EMISSIONS</b>														
<b>Running Exhaust Emissions (grams/mile)</b>														
	days/year	trips/day	miles/trip	grams to lbs	CO	Nox	PM	Sox	VOC	CO	Nox	PM	Sox	VOC
Semi-Truck	84	9	80	0.002205	21.193	18.732	0.018	0.017	0.809	2826.26	2498.07	2.40	2.27	107.89
Pick-Up Truck	84	30	20	0.002205	17.893	2.019	0.0194	0.005	0.73	1988.48	224.38	2.16	0.56	81.13
<b>Starting Emissions (grams/trip)</b>														
Semi-Truck	84	9		0.002205	151.358	4.125	0.004	0.004	14.937	252.31	6.88	0.01	0.01	24.90
Pick-Up Truck	84	30		0.002205	5.938	0.519	0.002	0	0.868	33.00	2.88	0.01	0.00	4.82
<b>Tire Wear (grams/mile)</b>														
Semi-Truck	84	9	80	0.002205			0.027			0.00	0.00	3.60	0.00	0.00
Pick-Up Truck	84	30	20	0.002205			0.008			0.00	0.00	0.89	0.00	0.00
<b>Break Wear (grams/mile)</b>														
Semi-Truck	84	9	80	0.002205			0.013			0.00	0.00	1.73	0.00	0.00
Pick-Up Truck	84	30	20	0.002205			0.013			0.00	0.00	1.44	0.00	0.00
					<b>Offsite Total</b>					<b>5100.06</b>	<b>2732.21</b>	<b>12.24</b>	<b>2.83</b>	<b>218.74</b>
					<b>Offsite Total (tons/year)</b>					<b>2.55</b>	<b>1.37</b>	<b>0.01</b>	<b>0.00</b>	<b>0.11</b>
<b>FUGITIVE DUST (PM10)</b>														
emission factor (ton/acre-month)	acres	months	(tons/year)		<b>Fugitive Dust Total (tons/year)</b>							<b>3.08</b>		
0.77	1	4	3.08											
					<b>Project Total (lb/year)</b>					<b>6355.35</b>	<b>5920.17</b>	<b>6345.62</b>	<b>532.37</b>	<b>511.06</b>
					<b>Project Total (tons/year)</b>					<b>3.18</b>	<b>2.96</b>	<b>3.17</b>	<b>0.27</b>	<b>0.26</b>
					CO	Nox	PM	Sox	VOC					
<b>Onsite (tons/year)</b>														
Equipment Exhaust					<b>0.63</b>	<b>1.59</b>	<b>0.09</b>	<b>0.26</b>	<b>0.15</b>					
<b>Fugitive Dust (tons/year)</b>							3.08							
<b>Onsite Total (tons/year)</b>					<b>0.63</b>	<b>1.59</b>	<b>3.17</b>	<b>0.26</b>	<b>0.15</b>					
<b>Offsite Total</b>					<b>2.55</b>	<b>1.37</b>	<b>0.01</b>	<b>0.00</b>	<b>0.11</b>					
<b>Project Total (tons/year)</b>					<b>3.18</b>	<b>2.96</b>	<b>3.17</b>	<b>0.27</b>	<b>0.26</b>					